




UNIVERSITY OF ILLINOIS  
UNDERGRADUATE DIVISION  
CHICAGO  
LIBRARY





U. OF I. - U. D.



Digitized by the Internet Archive  
in 2024

**THE AMERICAN  
YEAR BOOK**



THE AMERICAN  
YEAR BOOK

# THE AMERICAN YEAR BOOK

A Record of Events and Progress  
YEAR 1939


EDITOR

WILLIAM M. SCHUYLER

GENERAL EDITOR

ALBERT BUSHNELL HART

EDITED WITH THE COÖPERATION OF  
A SUPERVISORY BOARD REPRESENT-  
ING NATIONAL LEARNED SOCIETIES



NEW YORK  
THOMAS NELSON & SONS

1940

U OF I  
LIBRARY

Copyright, 1940  
BY THE AMERICAN YEAR BOOK CORPORATION  
*All rights reserved*



443740

M 44 40

PRINTED IN THE UNITED STATES OF AMERICA BY  
J. J. LITTLE AND IVES COMPANY, NEW YORK

U OF I  
LIBRARY



E  
171  
A585  
1939  
n/c

## PREFACE

---

The twenty-fifth issue of THE AMERICAN YEAR BOOK finds the world once more involved in the consequences of war. In this era of facile communication and of close international relations it is, perhaps, platitudinous to say that the consequences of war seep into the concerns of pretty nearly everybody in every country. Yet it is a platitude that may well be hazarded here because the contents of this volume give it a vivid reality. Few of the departments of knowledge reviewed herein escape the touch of the conflict in Europe either in direct or indirect contact. The matter of national defense comes first, obviously; questions of finance, with their bearing on the future public debt of this country, already disturbingly high, react on the acute tax-consciousness of our people; in the realm of social welfare, the ultimate effect can not be other than disconcerting when viewed in the light of current efforts to establish social justice. Education, scientific research, religious teaching, promotion of art, the progress of the humanities, in short, all feel the heavy prospect of retrogression.

The import of the whole is to be found interpreted in this volume. The Editors have exerted every effort to present a comprehensive picture of the year with the minimum of repetition of the war theme and with the minimum of stress on that theme consistent with a faithful recital of facts. The penetration of the war theme is nevertheless everywhere apparent. It is inevitably a part of the record of a year that the historian will have to reckon with intensively, a year in which the conflicting concepts of democratic and totalitarian governments have been joined. In addition to the narrative reviews in every field of action and thought, chronologies have been supplied for national and international affairs, governmental activities, business and finance. There are also the usual lists of periodical publications and of societies cognate to each major topical division, the purpose being to enable the reader to pursue inquiries which may carry him beyond the limits which are necessarily imposed on the scope of this work.



## TABLE OF CONTENTS

---

PREFACE . . . . .	v
CONSTITUENT SOCIETIES AND SUPERVISORY BOARD . . . . .	xi
CONTRIBUTORS . . . . .	xv

### PART ONE: HISTORICAL

DIVISION		PAGE
I.	AMERICAN POLITICAL HISTORY . . . . .	1
	The President and His Policies.—National Personalities.—The Year in Congress.—Federal Administrative Agencies.—The Supreme Court and Constitutional Law.—Elections of 1939.—New York World's Fair.—Golden Gate International Exposition.—Chronology of National Affairs.	
II.	INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES . . . . .	73
	The United States and Europe.—The War and American Neutrality.—British King and Queen in America.—United States and Latin America.—United States Relations in the Orient.—United States Relations in the Near East.—Foreign Service of the United States.—League of Nations and Associated Agencies.—Chronology of International Affairs.	

### PART TWO: AMERICAN GOVERNMENT

III.	THE NATIONAL GOVERNMENT . . . . .	121
	Federal Administrative Organization.—Members of the Senate and House of Representatives.—Federal Judicial Organization.—Federal Prosecutions and Judicial Decisions.—Federal Civil Service.—Chronology of the National Government.	
IV.	STATE GOVERNMENT . . . . .	161
	State Administration and Legislation.—National and Interstate Relations of States.—State Constitutions, Referenda and Initiatives.—Electoral Legislation.—County and Rural Government.	
V.	MUNICIPAL GOVERNMENT . . . . .	183
	New York City Affairs.—City Politics.—Functions of Municipal Government.—Types of Municipal Government.—Special Municipal Activities.	
VI.	TERRITORIES AND SPHERES OF AMERICAN INFLUENCE . . . . .	202
	Alaska.—Hawaii.—Puerto Rico.—Philippine Islands.—Virgin Islands.—Guam and American Samoa.—American Equatorial Islands.—The District of Columbia.	



# TABLE OF CONTENTS

## PART THREE: GOVERNMENTAL FUNCTIONS

DIVISION	PAGE
VII. PUBLIC FINANCE AND TAXATION . . . . .	230
National Finance and the Public Debt.—State Finance.—Municipal Finance.—Income Taxes.—Land and Property Taxes.—Corporation and Bank Taxes.—Estate and Inheritance Taxes.—Automobile Taxes.	
VIII. PUBLIC RESOURCES AND UTILITIES . . . . .	274
Federal Surveys and Maps.—State Geological Surveys.—Reclamation and Irrigation.—Public Lands.—Public Utilities.—Water Supply.—Street and Highway Traffic.	
IX. DEFENSE AND ARMAMENT . . . . .	311
The United States Army.—Administration of Veterans Affairs.—Waterways and Harbors.—The United States Navy.—Naval Construction and Equipment.	

## PART FOUR: ECONOMICS AND BUSINESS

X. BUSINESS AND FINANCE . . . . .	361
Economic and Business Conditions.—Security and Money Markets.—Banking Affairs.—Trust Business.—Foreign Exchange.—Foreign Trade.—Export and Import Balance.—Foreign Tariffs and Commercial Policies.—Life Insurance.—Fire Insurance.—Marine Insurance.—Casualty and Miscellaneous Insurance.—Financial Chronology.	
XI. AGRICULTURE AND ALLIED INDUSTRIES . . . . .	439
Conditions in Agriculture.—Cotton and Grain Crops.—Dairy Industry.—Diseases of Plants.—Insect Pests and Plant Quarantine.—Fisheries.—Forestry.	
XII. MINERAL INDUSTRIES . . . . .	472
Gold and Silver.—Iron and Steel.—Coal and Coke.—Non-Ferrous Metals.—Petroleum.	
XIII. MANUFACTURES AND TRANSPORTATION . . . . .	492
Conditions in Manufacturing.—Conditions of Internal Commerce.—The United States Tariff Commission.—Administration of Tariff Laws.—Railroads.—Highways.—Motor Bus Industry.—Community Transit.—Merchant Marine.—Commercial Aviation.	

## PART FIVE: SOCIAL CONDITIONS AND AIMS

XIV. IMMIGRATION AND POPULATION . . . . .	550
Race Conditions in the United States.—Population Statistics.	
XV. SOCIAL PROBLEMS AND CONDITIONS . . . . .	564
Public and Private Social Work.—Crime Control.—Housing.—Slum Clearance and Low-Rent Public Housing.	
XVI. LABOR AND LABOR LEGISLATION . . . . .	589
Labor Conditions and Activities.—Employment Conditions and Statistics.—Child Labor.	

# TABLE OF CONTENTS

DIVISION	PAGE
XVII. RELIGION AND RELIGIOUS ORGANIZATIONS . . . . .	618
Protestant Denominational Activities.—Interdenominational Activities.—Roman Catholic Church.—Eastern Churches.—Judaism and Jewish Communal Affairs.	
PART SIX: SCIENCE—PRINCIPLES AND APPLICATION	
XVIII. MATHEMATICS AND ASTRONOMY . . . . .	661
Mathematical Organizations.—American Mathematical Society.—Mathematical Association of America.—Statistical.—Analytical.—National and International Developments.—Publications.—Development of Astronomical Instruments.—Solar System.—Comets.—Stars.—Interstellar Matter.	
XIX. ENGINEERING AND CONSTRUCTION . . . . .	676
Structural Engineering.—Mechanical Engineering.—Electrical Engineering.—Radio.—Technical Advance in Sound Equipment.—Automotive Engineering.—Naval Architecture and Marine Engineering.	
XX. GEOPHYSICAL SCIENCES . . . . .	720
Earthquakes and Volcanoes.—Economic Geology.—Mineralogy and Petrography.—Terrestrial Magnetism and Electricity.—Meteorology and Climatology.—American Exploration.—Oceanography.	
XXI. CHEMISTRY AND PHYSICS . . . . .	747
Physical Chemistry.—Physics.—Organic and Inorganic Chemistry.—Electrochemistry.—Chemical Society Meetings.	
XXII. BIOLOGY . . . . .	765
Organic Evolution and Genetics.—Entomology.—Botany.—Economic Botany.	
XXIII. MEDICAL SCIENCES . . . . .	789
Medicine.—Physiology.—Pathology.—Surgery.—Public Health and Hygiene.—Vital Statistics.	
XXIV. PHILOSOPHICAL SCIENCES . . . . .	810
Psychology.—Philosophy.—Anthropology and Ethnology.	
PART SEVEN: THE HUMANITIES	
XXV. LITERATURE AND LANGUAGE . . . . .	834
Fiction.—Poetry.—History.—Biography.—Travel.—Criticism and Belles Lettres.—English Language and Literature.—German Language and Literature.—Romance Languages and Literatures.—Latin Literature.—Greek Literature.—Semitic Languages and Literature.—Indo-European Linguistics.	
XXVI. THE ARTS . . . . .	897
Archaeology.—Painting.—Sculpture.—Architecture.—Music and the Opera.—The Theatre.—Motion Pictures.	
XXVII. EDUCATION . . . . .	941
Elementary Education.—Secondary Education.—Collegiate Education.—Education for the Professions.—Adult Education.—Negro Education.—Libraries.	
NECROLOGY . . . . .	994





## CONSTITUENT SOCIETIES AND SUPERVISORY BOARD

### SOCIETIES AND REPRESENTATIVES

1. **ACTUARIAL SOCIETY OF AMERICA.**  
DR. WENDELL M. STRONG, Mutual Life Insurance Company, 34 Nassau Street, New York City.
2. **AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE.**  
DR. ERNEST M. PATTERSON, University of Pennsylvania, Philadelphia, Pa.
3. **AMERICAN ANTHROPOLOGICAL ASSOCIATION.**  
DR. CLARK WISSLER, American Museum of Natural History, New York City.
4. **AMERICAN ANTIQUARIAN SOCIETY.**  
CLARENCE S. BRIGHAM, Worcester, Mass.
5. **AMERICAN ASSOCIATION OF ECONOMIC ENTOMOLOGISTS.**  
DR. E. PORTER FELT, Bartlett Tree Research Laboratories, Stamford, Conn.
6. **AMERICAN ASSOCIATION OF MUSEUMS.**  
DR. LAURENCE VAIL COLEMAN, Director, American Association of Museums, Washington, D.C.
7. **AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.**  
PROFESSOR EDWARD G. CONKLIN, Princeton University, Princeton, N.J.
8. **AMERICAN ASSOCIATION FOR LABOR LEGISLATION.**  
DR. JOHN B. ANDREWS, 131 East 23d Street, New York City.
9. **AMERICAN ASTRONOMICAL ASSOCIATION.**  
PROFESSOR HENRY NORRIS RUSSELL, Princeton University, Princeton, N.J.
10. **AMERICAN BAR ASSOCIATION.**  
ASSOCIATE JUSTICE HARLAN F. STONE, United States Supreme Court, Washington, D.C.
11. **AMERICAN CHEMICAL SOCIETY.**  
COLONEL MARSTON T. BOGERT, 1158 Fifth Avenue, New York City.
12. **AMERICAN COUNCIL OF LEARNED SOCIETIES.**  
DR. WALDO G. LELAND, 907 Fifteenth Street, Washington, D.C.
13. **AMERICAN ECONOMIC ASSOCIATION.**  
PROFESSOR FREDERICK S. DEIBLER, Northwestern University, Evanston Illinois.
14. **AMERICAN FEDERATION OF ARTS.**  
DUNCAN PHILLIPS, Director, Phillips Memorial Gallery, Washington, D.C.
15. **AMERICAN HISTORICAL ASSOCIATION.**  
DR. ALBERT BUSHNELL HART, 46 Widener Library, Cambridge, Mass.

## CONSTITUENT SOCIETIES AND SUPERVISORY BOARD

### 16. AMERICAN INSTITUTE OF ARCHITECTS.

CHARLES T. INGHAM, 1741 New York Avenue, Washington, D.C.

### 17. AMERICAN INSTITUTE OF CRIMINAL LAW.

DR. GEORGE W. KIRCHWEY, 435 West 119th Street, New York City.

### 18. AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS.

HENRY H. HENLINE, 33 West 39th Street, New York City.

### 19. AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS.

PROFESSOR BRADLEY STOUGHTON, Lehigh University, Bethlehem, Pa.

### 20. AMERICAN LIBRARY ASSOCIATION.

DR. MILTON JAMES FERGUSON, Librarian, Brooklyn Public Library, New York.

### 21. AMERICAN MATHEMATICAL SOCIETY.

PROFESSOR C. N. MOORE, University of Cincinnati, Cincinnati, O.

### 22. AMERICAN MEDICAL ASSOCIATION.

Temporarily unrepresented.

### 23. AMERICAN ORIENTAL SOCIETY.

DR. LUDLOW BULL, Metropolitan Museum of Art, New York City.

### 24. AMERICAN PALEONTOLOGICAL SOCIETY.

DR. WILLIAM T. GREGORY, American Museum of Natural History, New York City.

### 25. AMERICAN PHILOLOGICAL ASSOCIATION.

DR. JOHN W. SPAETH, JR., Wesleyan University, Middletown, Conn.

### 26. AMERICAN PHILOSOPHICAL SOCIETY.

ARTHUR W. GOODSPEED, 104 South Fifth Street, Philadelphia, Pa.

### 27. AMERICAN PHYSICAL SOCIETY.

DR. HENRY A. BARTON, American Institute of Physics, 175 Fifth Ave., New York City.

### 28. AMERICAN POLITICAL SCIENCE ASSOCIATION.

PROFESSOR ARTHUR N. HOLCOMBE, 573 Widener Library, Cambridge, Mass.

### 29. AMERICAN PUBLIC HEALTH ASSOCIATION.

DR. MILTON J. ROSENAU, School of Medicine, University of North Carolina, Chapel Hill, N.C.

### 30. AMERICAN SOCIETY OF INTERNATIONAL LAW.

PROFESSOR GEORGE GRAFTON WILSON, Harvard University, Cambridge, Mass.

### 31. AMERICAN SOCIETY OF MECHANICAL ENGINEERS.

C. E. DAVIES, 29 West 39th Street, New York City.

### 32. AMERICAN SOCIETY FOR TESTING MATERIALS.

C. LAURENCE WARWICK, 260 South Broad Street, Philadelphia, Pa.

### 33. AMERICAN SOCIOLOGICAL SOCIETY.

PROFESSOR L. L. BERNARD, Washington University, St. Louis, Mo.

### 34. AMERICAN STATISTICAL ASSOCIATION.

Temporarily unrepresented.

### 35. AMERICAN VOCATIONAL ASSOCIATION, INC.

L. H. DENNIS, 1010 Vermont Avenue, Washington, D.C.

CONSTITUENT SOCIETIES AND SUPERVISORY BOARD

36. **ARCHAEOLOGICAL INSTITUTE OF AMERICA.**  
PROFESSOR RALPH VANDEMAN MAGOFFIN, New York University, New York City.
37. **GENERAL FEDERATION OF WOMEN'S CLUBS.**  
MRS. WILLIAM H. PURDY, 136 Park Avenue, Mount Vernon, N.Y.
38. **GEOLOGICAL SOCIETY OF AMERICA.**  
PROFESSOR DOUGLAS JOHNSON, Columbia University, New York City.
39. **INSTITUTE OF RADIO ENGINEERS.**  
DR. A. N. GOLDSMITH, 444 Madison Avenue, New York City.
40. **NATIONAL AERONAUTIC ASSOCIATION.**  
GODFREY L. CABOT, 242 Beacon Street, Boston, Mass.
41. **NATIONAL CONFERENCE OF SOCIAL WORK.**  
CHENEY C. JONES, The New England Home for Little Wanderers, 161 South Huntington Avenue, Boston, Mass.
42. **NATIONAL EDUCATION ASSOCIATION.**  
CHANCELLOR HARRY WOODBURN CHASE, New York University, New York City.
43. **NATIONAL GEOGRAPHIC SOCIETY.**  
DR. GILBERT GROSVENOR, Washington, D.C.
44. **NATIONAL MUNICIPAL LEAGUE.**  
CLINTON ROGERS WOODRUFF, 2219 Spruce Street, Philadelphia, Pa.
45. **THE SOCIETY OF NAVAL ARCHITECTS AND MARINE ENGINEERS.**  
REAR ADMIRAL GEORGE H. ROCK (C.C.), U.S.N. Retired; In Charge, Webb Institute of Naval Architecture, Webb and Sedgwick Avenues, New York City.



## CONTRIBUTORS

---

- William Anthony Aery, M.A., Ph.D.:** NEGRO EDUCATION.  
Director of Education, Hampton Institute.
- H. K. Allen, Ph.D.:** MUNICIPAL FINANCE.  
Department of Economics, University of Illinois.
- Catherine Smith Bailey:** MUSIC AND THE OPERA.  
Music Reviewer, *The Christian Science Monitor*.
- Frank Bain, Ph.D.:** LAND AND PROPERTY TAXES; CORPORATION AND BANK TAXES  
Credit Union Section, U. S. Farm Credit Association.
- Peter Bain:** NAVAL CONSTRUCTION AND EQUIPMENT; MERCHANT MARINE.  
Naval Construction Consultant.
- James L. Bates:** NAVAL ARCHITECTURE AND MARINE ENGINEERING.  
Director, Technical Division, U.S. Maritime Commission.
- John Bauer, Ph.D.:** PUBLIC UTILITIES.  
Director, American Public Utilities Bureau, New York City.
- Joseph A. Becker, M.S.:** COTTON AND GRAIN CROPS.  
Principal Agricultural Statistician, Agricultural Marketing Service,  
Department of Agriculture.
- Charles H. Behre, Jr., Ph.D.:** ECONOMIC GEOLOGY.  
Department of Geology and Geography, Northwestern University.
- James V. Bennett:** CRIME CONTROL.  
Director, Bureau of Prisons Department of Justice.
- George C. S. Benson:** THE YEAR IN CONGRESS.  
Associate Professor of Public Administration, University of Michigan.
- Rose V. S. Berry:** SCULPTURE.  
Associate Editor, *Art and Archaeology*; Lecturer at the University of California.
- Florence Seville Berryman, B.A.:** PAINTING.  
The American Federation of Arts.
- Witt Bowden:** LABOR CONDITIONS.  
Bureau of Labor Statistics, Department of Labor.
- Thomas A. Bissell:** AUTOMOTIVE ENGINEERING.  
Technical Editor, *S.A.E. Journal*.
- Donald F. Brown:** ARCHAEOLOGY.  
Fellow, American Academy in Rome.
- Everett S. Brown, B.L., M.L., Ph.D.:** THE PRESIDENT AND HIS POLICIES.  
Professor, Department of Political Science, University of Michigan.



## CONTRIBUTORS

- Robert M. Brown, Ph.D.:** AMERICAN EXPLORATION.  
Professor of Geology and Economic Geography, Rhode Island College of Education.
- Paul H. Buck, Ph.D.:** HISTORY.  
Associate Professor of History, Harvard University.
- Ada Lillian Bush:** CONDITIONS OF INTERNAL COMMERCE.  
Marketing Engineer, Washington, D.C.
- Axtell J. Byles:** PETROLEUM.  
President, American Petroleum Institute.
- John Patrick Carroll:** GOLDEN GATE INTERNATIONAL EXPOSITION.  
Editorial Department, Thomas Nelson & Sons.
- Henry Chalmers, B.A., M.A., Ph.D.:** FOREIGN TARIFFS AND COMMERCIAL POLICIES.  
Chief, Division of Foreign Tariffs, Department of Commerce.
- Eliot D. Chapple, Ph.D.:** ANTHROPOLOGY AND ETHNOLOGY.  
Department of Anthropology, Harvard University.
- Allan G. Chester, A.M., Ph.D.:** ENGLISH LANGUAGE AND LITERATURE.  
Assistant Professor of English, University of Pennsylvania.
- Arthur P. Chew:** CONDITIONS IN AGRICULTURE.  
Assistant to the Director of Information, U.S. Department of Agriculture.
- Orlie M. Clem, A.B., A.M., Ph.D.:** SECONDARY EDUCATION.  
School of Education, New York University.
- Lewis M. Clement:** RADIO; TECHNICAL ADVANCES IN SOUND EQUIPMENT.  
Vice President in Charge of Research and Engineering, RCA Manufacturing Co., Camden, N.J.
- Edwin F. Cone:** IRON AND STEEL.  
Editor, *Metals and Alloys*.
- Lawrence W. Cramer:** VIRGIN ISLANDS.  
Governor of the Virgin Islands.
- J. O. Creager:** COLLEGIATE EDUCATION.  
Chairman, Department of College Education, New York University.
- Nathaniel P. Davis:** FOREIGN SERVICE OF THE UNITED STATES.  
Chief, Division of Foreign Service Administration, Department of State.
- Frank M. Debatin:** ADULT EDUCATION.  
Dean, University College, Washington University, St. Louis, Mo.
- Courtenay Dinwiddie:** CHILD LABOR.  
General Secretary, National Child Labor Committee, New York City.
- J. J. Doland, M.S., C.E.:** STRUCTURAL ENGINEERING.  
Professor of Civil Engineering, University of Illinois.
- Harold M. Dorr:** NATIONAL PERSONALITIES.  
Associate Professor of Political Science, University of Michigan.
- H. Paul Douglass:** PROTESTANT DENOMINATIONAL ACTIVITIES.  
Editor, *Christendom*.
- Noel T. Dowling:** THE SUPREME COURT AND CONSTITUTIONAL LAW.  
Professor, School of Law, Columbia University.

## CONTRIBUTORS

- Halbert L. Dunn, M.D., Ph.D.:** VITAL STATISTICS.  
Chief Statistician for Vital Statistics, Bureau of the Census, Department of Commerce.
- Howard A. Edson, Ph.D.:** DISEASES OF PLANTS.  
Principal Pathologist in Charge, Plant Disease Survey, Bureau of Plant Industry, Department of Agriculture.
- Gurden Edwards, B.A.:** BANKING AFFAIRS.  
Secretary, Economic Policy Commission, American Bankers' Association.
- Richard R. Ely:** PHILIPPINE ISLANDS.  
Division of Territories and Island Possessions, Department of the Interior.
- H. R. Enslow, M.A.:** ESTATE AND INHERITANCE TAXES.  
Assistant Director of Local Assessments, State Department of Taxation and Finance, Albany, N.Y.
- E. Porter Felt, D.Sc.:** ENTOMOLOGY.  
Director, Bartlett Tree Research Laboratories, Stamford, Conn.
- Colin G. Fink, B.A., M.A., Ph.D.:** ELECTROCHEMISTRY.  
Head, Division of Electrochemistry, Columbia University; Secretary, American Electrochemical Society.
- Leon S. Fiske:** GUAM AND AMERICAN SAMOA.  
Commander, U.S.N.; Office of Island Governments, Navy Department.
- John A. Fleming, D.Sc.:** TERRESTRIAL MAGNETISM AND ELECTRICITY.  
Director, Department of Terrestrial Magnetism, Carnegie Institution of Washington.
- C. A. Freeman:** ADMINISTRATION OF TARIFF LAWS.  
Chief Division of Statistics and Research, Bureau of Customs, Treasury Department.
- Paul A. Freund:** FEDERAL PROSECUTIONS AND JUDICIAL DECISIONS.  
Harvard Law School.
- Clifford Frondel, Ph.D.:** MINERALOGY AND PETROGRAPHY.  
Geological Museum, Harvard University.
- Hubert R. Gallagher:** NATIONAL AND INTERSTATE RELATIONS OF STATES.  
Council of State Governments.
- Ernest P. Goodrich, B.Pd., B.Sc.:** STREET AND HIGHWAY TRAFFIC.  
Consulting Engineer, New York.
- Cyrus H. Gordon, Ph.D., A.B., M.A.:** SEMITIC LANGUAGES AND LITERATURE.  
Institute for Advanced Study, Princeton, N.J.
- Myron Gordon, Ph.D.:** ORGANIC EVOLUTION AND GENETICS.  
Guest Investigator in Genetics, New York Aquarium.
- Jack Gould:** THE THEATRE.  
Drama Department, *The New York Times*.
- Herbert H. Gowen:** UNITED STATES RELATIONS IN THE ORIENT.  
Professor of Oriental Studies, University of Washington.
- Thomas S. Green, Jr.:** STATE ADMINISTRATION AND LEGISLATION.  
Council of State Governments.

## CONTRIBUTORS

**Ernest Gruening, Ph.D.:** ALASKA; HAWAII.  
Governor of Alaska.

**Andrew F. Haiduck, B.S., A.E.:** COMMERCIAL AVIATION.  
Chief Stress Analyst, Bellanca Aircraft Corporation.

**R. Dawson Hall:** COAL AND COKE.  
Engineering Editor, *The Coal Age*.

**Edward R. Hardy:** FIRE INSURANCE.  
Secretary-Treasury, Insurance Institute of America.

**Edward R. Hardy, Jr., Ph.D.:** THE EASTERN CHURCHES.  
General Theological Seminary, New York City.

**H. K. Hayes, D.Sc.:** ECONOMIC BOTANY.  
Chief, Division of Agronomy and Plant Genetics, University Farm,  
University of Minnesota.

**N. H. Heck:** EARTHQUAKES AND VOLCANOES.  
Chief, Division of Terrestrial Magnetism and Seismology, U. S.  
Coast and Geodetic Survey, Department of Commerce.

**Frank T. Hines, LL.D.:** ADMINISTRATION OF VETERANS' AFFAIRS.  
Brigadier General, O.R.C.; Administrator, Veterans Administration.

**Ira V. Hiscock, M.D.:** PUBLIC HEALTH AND HYGIENE.  
Professor of Public Health, Yale School of Medicine.

**Fred K. Hoehler:** PUBLIC AND PRIVATE SOCIAL WORK.  
Director, American Public Welfare Association.

**Thomas N. Hoover:** ELECTIONS OF 1939.  
Professor of History, Ohio University.

**Orren C. Hormell, Ph.D.:** COUNTY AND RURAL GOVERNMENT.  
De Alva Stanwood Alexander Professor of Government, Bowdoin  
College.

**Solomon S. Huebner, B.S., M.S., Ph.D.:** ECONOMIC AND BUSINESS CON-  
DITIONS; SECURITY AND MONEY MARKETS.  
Professor of Insurance and Commerce, University of Pennsylvania.

**Wilbur S. Hulin, M.A., Ph.D.:** PSYCHOLOGY.  
Professor of Psychology, University of Oregon.

**Peter Monro Jack, M.A.:** FICTION; POETRY; CRITICISM AND BELLES LETTRES.  
Writer, lecturer, and critic.

**Charles E. Jackson:** FISHERIES.  
Deputy Commissioner, U. S. Bureau of Fisheries, Department of  
the Interior.

**F. Cyril James, B. Com. (London), A.M., Ph.D.:** NATIONAL FINANCE AND  
THE PUBLIC DEBT.  
Principal and Vice Chancellor, McGill University.

**W. L. G. Joerg:** FEDERAL SURVEYS AND MAPS.  
Chief, Division of Maps and Charts, The National Archives, Wash-  
ington, D.C.; President, Association of American Geographers;  
Secretary, United States National Committee of the International  
Geographical Union.

## CONTRIBUTORS

- Fred W. Johnson: PUBLIC LANDS.**  
Commissioner of the General Land Office, Department of the Interior.
- Howard P. Jones: CITY POLITICS.**  
Secretary, National Municipal League.
- F. W. Kaufmann, Ph.D.: GERMAN LANGUAGES AND LITERATURE.**  
Professor of German, Oberlin College.
- Frank T. Kenner: AMERICAN EQUATORIAL ISLANDS.**  
Lieut. Commander, U.S.N.; Acting Field Officer, Department of the Interior.
- Lucy W. Killough, Ph.D.: INCOME TAXES.**  
Professor of Economics and Sociology, Wellesley College.
- Robert D. Kohn: THE NEW YORK WORLD'S FAIR.**  
Vice President, The New York World's Fair.
- Roland L. Kramer, B.S., M.A., Ph.D.: FOREIGN TRADE.**  
Professor of Commerce and Transportation, University of Pennsylvania.
- George S. Lane, Ph.D.: INDO-EUROPEAN LINGUISTICS.**  
Associate Professor of Germanic Languages, University of North Carolina.
- Mary M. Larisey, A.B., M.S., Ph.D.: BOTANY.**  
Department of Botany, Wellesley College.
- Harry H. Laughlin, B.S., M.S., D.Sc.: RACE CONDITIONS IN THE UNITED STATES.**  
Assistant Director, Department of Genetics, Carnegie Institution of Washington.
- William D. Leahy: PUERTO RICO.**  
Admiral, U.S.N.; Governor of Puerto Rico.
- L. P. Lovette: UNITED STATES NAVY.**  
Commander, U.S.N.; Office of Public Relations, Navy Department.
- Thomas H. MacDonald, B.C.D.: HIGHWAYS.**  
Commissioner of Public Roads, Public Roads Administration, Works Projects Agency.
- Helen K. Mackintosh, Ph.D.: ELEMENTARY EDUCATION.**  
Senior Specialist in Elementary Education, U. S. Office of Education.
- W. Rolland Maddox, M.A.: STATE CONSTITUTIONS, REFERENDA, AND INITIATIVES.**  
Professor of Political Governmental Research, University of Kansas.
- Paul Martin-Dillon: ROMAN CATHOLIC CHURCH.**  
Director, Bureau of Information, National Catholic Welfare Conference.
- Stewart McDonald: HOUSING.**  
Administrator, Federal Housing Administration.
- Frank L. Meleney, M.D.: SURGERY.**  
Professor of Surgery, Columbia University.
- John E. Merrill, Ph.D.: ASTRONOMY AND ASTROPHYSICS.**  
Instructor, Hunter College.

## CONTRIBUTORS

- William Stuart Messer, Ph.D.:** GREEK LITERATURE.  
Professor of Latin and Greek, Dartmouth College.
- G. F. Michelbacher:** CASUALTY AND MISCELLANEOUS INSURANCE.  
Vice President and Secretary of the Great American Indemnity Company.
- John A. Miller, Ph.B.:** COMMUNITY TRANSIT.  
Editor, *Transit Journal*.
- Harry B. Mitchell:** FEDERAL CIVIL SERVICE.  
President, United States Civil Service Commission.
- Charles N. Moore:** MATHEMATICS.  
Professor of Mathematics, University of Cincinnati.
- Ernest R. Moore:** ROMANCE LANGUAGES AND LITERATURES.  
Department of Romance Languages and Literatures, Cornell University.
- Marcus Nadler, J.D.:** FOREIGN EXCHANGE.  
Assistant Director, Institute of International Finance, New York University.
- Arthur Notman:** GOLD AND SILVER; NON-FERROUS METALS.  
Mining Engineer and Geologist, New York.
- Frank S. Nugent:** MOTION PICTURES.  
Motion Picture Reviewer, *The New York Times*.
- Thomas H. Osgood, Ph.D., M.A., B.Sc., M.S.:** PHYSICS.  
Professor of Physics, University of Toledo.
- John C. Page:** RECLAMATION AND IRRIGATION.  
Commissioner, Bureau of Reclamation, Department of the Interior.
- John J. Pelley:** RAILROADS.  
President, Association of American Railroads.
- Mildred Othmer Peterson:** LIBRARIES.  
American Library Association.
- Elizabeth T. Platt, B.S., M.A.:** TRAVEL.  
Assistant Librarian, American Geographical Society.
- David Popper:** UNITED STATES AND EUROPE; THE WAR AND AMERICAN NEUTRALITY.  
Foreign Policy Association.
- Donald B. Prentice, M.E., Sc.D., LL.D.:** MECHANICAL ENGINEERING.  
President, Rose Polytechnic Institute.
- Paul H. Price:** STATE GEOLOGICAL SURVEYS.  
Secretary, Association of American Geologists.
- Charles E. Randall, A.B., M.A.:** FORESTRY.  
Acting Chief, Division of Information and Education, United States Forest Service, Department of Agriculture.
- Henry H. Reed:** MARINE INSURANCE.  
Insurance Company of North America.
- L. S. Richardson, B.S.:** DAIRY INDUSTRY.  
Assistant to the Chief of Dairy Information, Bureau of Dairy Industry, Department of Agriculture.



## CONTRIBUTORS

- Irma Rittenhouse:** EMPLOYMENT CONDITIONS.  
Associate Economist, N. Y. State Division of Placement and Unemployment Insurance.
- C. Townsend Ruddick, Ph.D.:** PHILOSOPHY.  
Member, American Philosophical Association and Southern Society for Philosophy and Psychology.
- Catherine G. Ruggles, Ph.D.:** STATE FINANCES.  
Instructor, University of Illinois.
- Wallace S. Sayre:** NEW YORK CITY AFFAIRS.  
Civil Service Commissioner, New York City.
- Julian L. Schley:** WATERWAYS AND HARBORS  
Major General U.S.A.; Chief of Engineers, War Department.
- Harry Schneiderman:** JUDAISM AND JEWISH COMMUNAL AFFAIRS.  
Editor, *The American Jewish Year Book*.
- L. Seth Schnitman, Ph.B., LL.B.:** CONDITIONS IN MANUFACTURING.  
Consulting Economist, New York.
- William M. Schuyler:** FEDERAL ADMINISTRATIVE ORGANIZATION; PERSONNEL OF THE JUDICIARY; BRITISH KING AND QUEEN IN AMERICA.  
Editor, *The American Year Book*.
- Preston King Sheldon:** INTERDENOMINATIONAL ACTIVITIES.  
Editor and Writer.
- John W. Spaeth, Jr., Ph.D.:** LATIN LITERATURE.  
Robert Rich Professor of Classics, Wesleyan University; Associate Editor, *Classical Journal*; Secretary-Treasurer, Classical Association of New England.
- Gilbert T. Stephenson, B.A., M.A., LL.B.:** TRUST BUSINESS.  
Director of Trust Research of the Institute of Banking, American Bankers Association.
- Raymond B. Stevens:** UNITED STATES TARIFF COMMISSION.  
Chairman, United States Tariff Commission.
- Carl W. Stocks:** MOTOR BUS INDUSTRY.  
Editor, *Bus Transportation*.
- Robert G. Stone, B.A., M.A.:** METEOROLOGY AND CLIMATOLOGY.  
Blue Hill Meteorological Observatory, Harvard University.
- Nathan Straus:** SLUM CLEARANCE AND LOW-RENT PUBLIC HOUSING.  
Administrator, U. S. Housing Authority, Federal Works Agency.
- George D. Strayer, Jr.:** EDUCATION FOR THE PROFESSIONS.  
Professor of Education, George Peabody College for Teachers, Nashville, Tenn.
- Lee A. Strong, D.Sc.:** INSECT PESTS AND PLANT QUARANTINE.  
Chief of the Bureau of Entomology and Plant Quarantine, Department of Agriculture.
- Wendell M. Strong, Ph.D., LL.B.:** LIFE INSURANCE.  
Associate Actuary, Mutual Life Insurance Company, New York.
- Graham Stuart, Ph.D.:** UNITED STATES RELATIONS WITH LATIN AMERICA.  
Professor of Political Science, Stanford University.
- Francis P. Sullivan:** ARCHITECTURE.  
Chairman, Committee on the National Capital, The American Institute of Architects.

## CONTRIBUTORS

- C. M. Suter:** ORGANIC AND INORGANIC CHEMISTRY.  
Associate Professor of Chemistry, Northwestern University.
- Amos E. Taylor:** EXPORT AND IMPORT BALANCE.  
Assistant Chief, Finance Division, Bureau of Foreign and Domestic Commerce, Department of Commerce.
- Hugh S. Taylor, Ph.D., D.Sc., F.R.S.:** PHYSICAL CHEMISTRY.  
David B. Jones Professor of Chemistry, Princeton University.
- Robert S. Thomas, B.A., M.A.:** UNITED STATES ARMY.  
Chief Clerk, Historical Section, Army War College.
- Beulah Bailey Thull, B.A., B.L.S.:** AUTOMOBILE TAXES.  
Research Assistant, N. Y. State Department of Taxation and Finance.
- John A. Tillema, Ph.D., LL.M., S.J.D.:** FEDERAL ADMINISTRATIVE AGENCIES.  
Professor, School of Government, The George Washington University.
- Max Trubek, B.A., M.D.:** MEDICINE, PHYSIOLOGY, AND PATHOLOGY.  
Associate Visiting Physician, Bellevue Hospital, New York.
- Leon E. Truesdell, Ph.D., Sc.D.:** POPULATION STATISTICS.  
Chief Statistician for Population, Bureau of the Census, Department of Commerce.
- O. Douglas Weeks, B.A., M.A., Ph.D.:** ELECTORAL LEGISLATION.  
Professor of Government, University of Texas.
- Warren Reed West, Ph.D.:** DISTRICT OF COLUMBIA.  
Professor of Political Science, The George Washington University.
- Robert Spurr Weston:** WATER SUPPLY.  
Consulting Engineer, Boston.
- Cornelius N. Weygandt:** ELECTRICAL ENGINEERING.  
Moore School of Electrical Engineering, University of Pennsylvania.
- Wilbur W. White:** THE UNITED STATES AND THE NEAR EAST.  
Professor of Political Science, Western Reserve University.
- P. C. Whitney:** OCEANOGRAPHY.  
Chief, Division of Tides and Currents, U. S. Coast and Geodetic Survey, Department of Commerce.
- Clinton Rogers Woodruff, B.A., Ph.D., LL.B.:** FUNCTIONS AND TYPES OF MUNICIPAL GOVERNMENT.  
Lawyer and Publicist, Philadelphia.
- Malcolm O. Young, B.A., B.L.S.:** BIOGRAPHY.  
Reference Librarian, Princeton University.

**THE AMERICAN  
YEAR BOOK**



# THE AMERICAN YEAR BOOK

A RECORD OF EVENTS AND PROGRESS

PART ONE

HISTORICAL

DIVISION I

AMERICAN POLITICAL HISTORY

THE PRESIDENT AND HIS POLICIES

BY EVERETT S. BROWN

PROFESSOR, UNIVERSITY OF MICHIGAN

---

## FOREIGN POLICY

The danger of becoming involved in wars, military and economic, was made the central theme of President Roosevelt's annual message to Congress on Jan. 4, 1939 and continued to dominate his policies, foreign and domestic, through the year. "Events abroad," said the President, "have made it increasingly clear to the American people that dangers within are less to be feared than dangers from without." Pointing to the breakdown of religion, democracy and international good faith in various parts of the world, the President pledged the support of the United States to the protection of the Western Hemisphere against foreign aggression. In so doing, he declared that "there are many methods short of war, but stronger and more effective than mere words, of bringing home to aggressor governments the aggregate sentiments of our own people"—a phrase whose meaning led to much speculation at the time. He said that at the very least nothing should be done which would encour-

age or assist an aggressor. Furthermore, he added, an ever-ready defense must be maintained. This defense policy involved sufficient armed forces to resist sudden attack; the organization and location of key facilities so that they might be utilized and expanded in the face of enemy attack; and the support of a united people. This support, the President asserted, depended in turn on the conviction of the people that they were receiving their just share of opportunity for development and of material success. Therefore the program of social and economic reform was "a part of defense as basic as armaments themselves."

The President was soon called upon to amplify and clarify his foreign policy. The crash of a new type bombing plane in California, resulting in injury to a French aviation officer who was in it, led to an inquiry by a Senate committee into the question of the extent of our aid to French aircraft rearmament purchases in this country. At a subsequent secret meeting with the entire Military Affairs

## I. AMERICAN POLITICAL HISTORY

Committee of the Senate, President Roosevelt outlined world conditions. Newspaper reports of this conference caused such great excitement at home and abroad that the President felt compelled to discuss the subject at his conference with newspaper men on Feb. 3. He declared that our foreign policy had not changed and was not going to change. He summarized this policy as follows: "No. 1: We are against entangling alliances, obviously. No. 2: We are in favor of the maintenance of world trade for everybody—all nations—including ourselves. No. 3: We are in complete sympathy with any and every effort made to reduce or limit armaments. No. 4: As a Nation—as American people—we are sympathetic with the peaceful maintenance of political, economic and social independence of all nations in the world."

### NATIONAL DEFENSE

President Roosevelt, in a message to Congress on Jan. 12, 1939, indicated what he regarded as the minimum of requirements for an adequate defense. He recommended the appropriation of approximately \$525,000,000, of which \$210,000,000 would be actually spent from the Treasury before the close of the fiscal year 1939-1940. He urged the purchase of a large number of airplanes for the Army, as well as "critical items" of emergency equipment; the placing of "educational orders," to prepare for quantity production in industry of essential noncommercial military items; and the improving and strengthening of the seacoast defenses of Panama, Hawaii, and the continental United States. Navy bases ought also to be strengthened and additional air pilots trained. During the ensuing months, Congress enacted legislation putting into effect the President's general policy, although differing somewhat in detail. On Nov. 24, in a conference with newspaper men on the subject of the forthcoming budget, President Roosevelt told reporters that the threat of war would force an increase of \$500,000,000 in the outlay for the military establishment during the 1941 fiscal year above the amount

needed for the usual maintenance and activities of the armed services.

### RELATIONS WITH EUROPE

In his annual message, the President had remarked that "a war which threatened to envelop the world in flames has been averted, but it has become increasingly clear that peace is not assured." The truth of this prophecy was soon apparent. On March 15 and 16 Hitler annexed Czecho-Slovakia and on April 7 Mussolini occupied Albania. Pursuing his policy of the previous year, President Roosevelt appealed to Hitler and Mussolini to keep the peace of the world. In his message to Chancellor Hitler, he pointed to the termination of the independent existence of three nations in Europe and one in Africa and the occupation of "a vast territory in another independent nation of the Far East." According to reports, further acts of aggression were contemplated. The President insisted that international problems could be solved at the council tables. Expressing the conviction that the cause of world peace would be greatly advanced by frank statements of policy, he asked whether Hitler was willing to give assurance that his armed forces would not attack or invade the territory or possessions of Finland, Estonia, Latvia, Lithuania, Sweden, Norway, Denmark, the Netherlands, Belgium, Great Britain and Ireland, France, Portugal, Spain, Switzerland, Lichtenstein, Luxemburg, Poland, Hungary, Rumania, Yugoslavia, Russia, Bulgaria, Greece, Turkey, Iraq, the Arabias, Syria, Palestine, Egypt and Iran. He asked for a minimum period of ten years of assured non-aggression. If such assurance were given, President Roosevelt promised to transmit it to the nations named and to inquire whether each of them would give like assurances. Following the giving of these assurances the President would propose discussions of "the most effective and immediate manner through which the peoples of the world can obtain progressive relief from the crushing burden of armament which is each day bringing them more closely to the brink of eco-



## THE PRESIDENT AND HIS POLICIES

conomic disaster." In these discussions the United States would participate, as it would also in discussions "looking toward the most practical manner of opening up avenues of international trade to the end that every nation of the earth may be enabled to buy and sell on equal terms in the world market, as well as to possess assurance of obtaining the materials and products of peaceful economic life."

Thirteen days later, Chancellor Hitler made his answer. After a review of the European situation he framed his reply to President Roosevelt in the form of 21 questions and answers. He spoke derisively of the Roosevelt proposals, tossing aside the suggestion of an international conference with the remark that "the German nation once trusted an American President and went unarmed to a conference." He sarcastically suggested that the United States would do well to attend to its own affairs and let Europe alone. He denied any intention of attacking either North or South America.

The signing of a mutual non-aggression pact by Germany and Soviet Russia and the threat to Poland led President Roosevelt again to exert his influence for peace. On Aug. 23, he sent a message to King Victor Emmanuel of Italy, in which he reviewed the proposals made in his note of the preceding April and said that if it were possible for the Italian Government to formulate proposals for a pacific solution of the present crisis along those lines, it would have the earnest sympathy of the United States. On the two following days messages were also sent by the President to Chancellor Hitler, President Moscicki of Poland, and King Leopold of Belgium. He appealed to Germany and Poland to agree by common accord to refrain from any positive act of hostility for a stipulated period and to agree to solve their controversies by one of the following methods: by negotiation; by submission of the controversies to impartial arbitration; or through the procedure of conciliation, selecting their conciliator from one of the tra-

ditionally neutral states of Europe, or from one of the American republics. As an indication of the trend public opinion in the United States would probably take in the event of the outbreak of hostilities, the President said: "The people of the United States are as one in their opposition to policies of military conquest and domination. They are as one in rejecting the thesis that any ruler, or any people, possess the right to achieve their ends or objectives through the taking of action which will plunge countless millions of people into war and which will bring distress and suffering to every nation of the world, belligerent and neutral, when such ends and objectives, so far as they are just and reasonable, can be satisfied through processes of peaceful negotiation or by resort to judicial arbitration."

A favorable reply was received from President Moscicki but none from Chancellor Hitler. President Roosevelt then sent a second appeal to Hitler to which the reply was made that the Fuehrer had left nothing untried for the purpose of settling the dispute between Germany and Poland in a friendly manner but that owing to the attitude of the Polish Government all endeavors were without result. Anticipating failure to prevent the outbreak of war, President Roosevelt on Sept. 1 appealed to the Governments of Great Britain, France, Italy, Germany and Poland to refrain from the bombardment from the air of civilian populations or of unfortified cities. All replied favorably. To the American people the President on Sept. 3 gave assurance that every effort of the Government would be directed toward keeping the United States out of the European war.

Threatening demands on Finland by Soviet Russia again led to action by President Roosevelt. On Oct. 11 he expressed to President Kalinin the earnest hope that the Soviet Union would make no demands on Finland which were "inconsistent with the maintenance and development of amicable and peaceful relations between the two countries, and the independence of each." Once more he re-

## I. AMERICAN POLITICAL HISTORY

ceived a reassuring reply, but aggressive acts on the part of Soviet Russia led to the outbreak of hostilities and the bombing of Finnish cities. On Dec. 1 President Roosevelt sent to the governments of Soviet Russia and Finland the same appeal that they refrain from bombing civilian populations which he had transmitted earlier to the other warring governments of Europe. On the same date he released to the press a statement on the Finnish-Soviet situation, condemning the Soviet resort to force of arms and expressing the respect and warm regard of the American people and the Government of the United States for the people and Government of Finland. This was by far the strongest of the President's statements of disapproval of the politics of conquest. He followed it by a public statement on Dec. 2 that the Government hoped to the end that unprovoked bombing and machine-gunning of civilian populations from the air "shall not be given material encouragement in the light of recent recurrence of such acts, that American manufacturers and exporters of airplanes, aeronautical equipment and materials essential to airplane manufacture will bear this fact in mind before negotiating contracts for the exportation of these articles to nations obviously guilty of such unprovoked bombing." The fact that this statement was issued meant that the President wished to make the direct charge against Soviet Russia and to levy a moral embargo on shipments of the listed articles to that country. The President also expressed his sympathy for Finland in another way. He disclosed plans, which, however, required Congressional approval, for aiding Finland by permitting the use of the Dec. 15 payment on its war debt to this country for the benefit of the Finnish people.

In the closing days of the year, in a final move toward peace, President Roosevelt appealed to "all of the churches of the world which believe in a common God" to use their influence in behalf of an enduring peace, and named Myron C. Taylor as his personal representative to the Vatican, with the rank of ambassador, to

confer with Pope Pius XII in the promotion of that objective.

### NEUTRALITY

The unsettled condition of European affairs made all the more significant the neutrality policy of the United States. The need for further legislation to take the place of sections of the Neutrality Act of 1937, due to expire in 1939, led to a full and controversial discussion of the action to be taken. As early as Jan. 4 President Roosevelt asserted: "We have learned that when we deliberately try to legislate neutrality, our neutrality laws may operate unevenly and unfairly—may actually give aid to an aggressor and deny it to the victim." This was regarded as a desire for more flexibility in the law and greater power of discretion on the part of the President. Opposition to the President and divergent views in Congress led the Senate Committee on Foreign Relations to defer action on neutrality legislation until the next session of Congress. President Roosevelt sent a message of protest to Congress on July 14, declaring that it was clear to him that for the cause of peace and in the interests of American neutrality and security, it was highly advisable that Congress should enact neutrality legislation at its current session. With his message he enclosed a statement from Secretary of State Hull, which, he said, had his full approval. In this statement Secretary Hull developed fully the Administration's policy on peace and neutrality, reviewing and repeating earlier statements on the same subject. The legislative proposals which were recommended to the Congress on May 27 and repeated on July 14, contemplated the elimination of the existing arms embargo and embraced the following points: (1) to prohibit American ships from entering combat areas; (2) to restrict travel by American citizens in combat areas; (3) to require that goods exported from the United States to belligerent countries shall be preceded by the transfer of title to the foreign purchasers; (4) to continue the existing legislation respecting loans and credits to belliger-

## THE PRESIDENT AND HIS POLICIES

ent nations; (5) to regulate the solicitation and collection in this country of funds for belligerents; and (6) to continue the National Munitions Control Board and the licensing system with respect to the importation and exportation of arms, ammunition, and implements of war. This six-point program, according to Secretary Hull, was the best that could be devised to keep this country out of a conflict should it arise. The entire question of peace and neutrality and its possible effects upon the safety and interest of the United States during the coming months he characterized as of the utmost importance, and one which should be acted upon by the Government without undue delay.

When Senate leaders released to the press on July 18 their opinion that no action on neutrality legislation could be obtained at the present session, the President replied that he "maintained the definite position that failure by the Senate to take action now would weaken the leadership of the United States in exercising its potent influence in the cause of preserving peace among other nations in the event of a new crisis in Europe between now and next January."

A new crisis did arise in September, and the President announced by radio to the American people his intention of doing everything possible to keep the United States neutral. He also issued proclamations relating to the country's neutrality and putting into effect the provisions of the Neutrality Act prohibiting the export of arms, ammunition and implements of war to the countries at war. On Sept. 13 he issued a call for an extraordinary session of Congress to convene on Sept. 21. In his message to this Congress he reviewed the various attempts of our Government to aid in averting the existing war, but having failed, it must lose no time or effort to keep the nation from being drawn into the war. He asked Congress to take action on the embargo provisions of the Neutrality Act, which in his opinion were "most vitally dangerous to American neutrality, American security, and American peace." He criticized the em-

bargo provisions because they prevented the sale to a belligerent by an American factory of completed implements of war, but allowed the sale of many types of uncompleted implements of war as well as all kinds of general material and supplies. Definite danger to our neutrality and peace lay also in the fact that products of industry and agriculture could be taken in American ships to belligerent countries. The President asked for "the repeal of the embargo provisions and a return to international law." In addition to the repeal of the embargo, he asked for consideration of other phases of policy reinforcing American safety. These included: restriction of American vessels from entering danger zones; prevention of American citizens from traveling on belligerent vessels or in danger areas; requirement that the foreign buyer take transfer of title in this country to commodities purchased by belligerents; prevention of war credits to belligerents; regulation of collection of funds in this country for belligerents, and the maintenance of a license system covering import and export of arms, ammunition, and implements of war.

After more than a month of debate, Congress passed the Neutrality Act of 1939, embodying in it practically all of the points requested. In signing the joint resolution on Nov. 4, the President stated that he was satisfied the new act would greatly assist in the endeavor to keep the country at peace. He promptly issued various proclamations designed to carry out the provisions of the act.

### FAR EAST

On July 26 Secretary of State Cordell Hull gave six months' notice to Japan of the termination of the Treaty of Commerce and Navigation of 1911 between that country and the United States. He stated that the treaty contained provisions which needed new consideration. Another asserted purpose in the action taken was better to safeguard and promote American interests as new developments might require. This notice followed closely upon a resolution in-



## I. AMERICAN POLITICAL HISTORY

troduced into the Senate by Senator Vandenberg of Michigan requesting the termination of the treaty. Protests against Japanese bombing of Chinese cities and against disregard of American rights in China had previously been made but the sudden note from the Department of State caused a world-wide sensation. It was a decided shock to Japanese militarists who had paid little regard to treaties to which the United States was a party, and who had permitted their soldiers to mistreat American citizens. The date of the abrogation of the treaty fell in January, 1940 when Congress was again in session. There was considerable speculation as to whether a new treaty would be written or not. Proposals were made to levy an embargo on Japanese goods. The policy of the United States toward Japan promised to be one of the important diplomatic questions facing the President in the forthcoming year.

### LATIN AMERICA

Throughout 1939 President Roosevelt sought to develop the spirit of friendship and solidarity among the nations of the Western Hemisphere. This was the theme of his Pan American address on April 14. Although emphasizing the use of friendly conferences for the solution of common problems he warned that any attempt to violate the American peace or to impair the independence of any one of the group of countries would be met by matching force to force.

Because the outbreak of war in Europe was regarded as a potential menace to the peace of the New World, an Inter-American Consultative Conference was called to meet in Panama on Sept. 23. At this conference a number of significant agreements were reached, among them the Declaration of Panama in which the principle was laid down that belligerent activities undertaken by European powers participating in the European war should not take place within those waters adjacent to the American Continent which embrace normal inter-American maritime communications.

### MEXICO

At a time when trade and friendly cooperation were increasing between the United States and most of the other countries in the Western Hemisphere, the oil controversy with Mexico became more acute. The Supreme Court of Mexico upheld the constitutionality of the decree which expropriated American-owned oil lands valued at \$250,000,000. The Mexican oil problem thus passed to the State Department for possible solution. Secretary Hull has not challenged Mexico's right to expropriate the oil lands, but he has insisted that the American firms be given prompt and effective compensation for losses suffered. On the side of Mexico, President Cardenas has maintained the position that Mexico can pay for the oil lands when it is ready to do so. The nature of the pressure to be put on Mexico was indicated by President Roosevelt's proclamation establishing oil import quotas under the new Venezuela trade agreement. Although the lowering of oil duties included Mexico, under the most-favored-nation policy, the new quotas were prorated on the basis of imports during the first ten months of 1939, which virtually excluded Mexican oil from the United States. The severity of this pressure can be better realized when it is noted that the British and German blockades are making it increasingly difficult for Mexico to dispose of its oil.

### TRADE AGREEMENTS

The President placed himself squarely behind the reciprocal trade-agreements program. In a letter of March 29 to Senator Harrison he voiced his disapproval of a proposal in Congress to raise the duties on certain imported fats and oils. He declared that the trade-agreement program was "an essential part of our general program for economic recovery in this country," and also "a vital part of our foreign policy. Attacks on the trade-agreements program such as that represented by this new drive for embargo tariffs on fats and oils are, therefore, attacks on our efforts to attain full prosperity at

## THE PRESIDENT AND HIS POLICIES

home and to promote economic disarmament and peaceful relations throughout the world." Republican criticism of the trade-agreements program gave promise that this subject would become one of the important issues of the 1940 presidential campaign.

### SOCIAL SECURITY AND EMPLOYMENT

The President's annual message to Congress on Jan. 4 indicated the trend of his domestic policies. After referring to the need for better provision for older people under our social security legislation; for ways to end factional labor strife and employer-employee disputes; for the reorganization of the executive processes of government; and for the amelioration of railroad and other transportation problems, the President declared: "We have now passed the period of internal conflict in the launching of our program of social reform. Our full energies may now be released to invigorate the processes of recovery in order to preserve our reforms, and to give every man and woman who wants to work a real job at a living wage."

Another passage in this same message gave support to the profit motive in industry in the following words: "The object is to put capital—private as well as public—to work. We want to get enough capital and labor at work to give us a total turnover of business, a total income, of at least \$80,000,000,000 a year. At that figure we shall have a substantial reduction of unemployment, and the Federal revenues will be sufficient to balance the current level of cash expenditures on the basis of the existing tax structure. That figure can be attained working within the framework of our traditional profit system." However, the President opposed violent or arbitrary curtailment of the Government's relief program because of the probable harmful effect on business. In a special message to Congress on relief he requested a deficiency appropriation of \$875,000,000 for W.P.A. to carry the unemployed to the end of the fiscal year.

When Congress cut this amount by \$150,000,000 the President made another request for additional funds. In his message of April 27, asking relief funds for the next fiscal year, he stated that it was his policy to give work to the needy unemployed who are able to work instead of handing out charity to them in the form of food. Admitting that the cost per individual of a work program was higher than of a dole, he expressed the belief that increased cost was justified in the maintenance of the morale of the worker and the creation of permanent public assets.

Following up the reference in his annual message to social security legislation, President Roosevelt on Jan. 16 again urged the desirability of affording greater old-age security, greater protection to dependent children, and the extension of the Federal old-age insurance system and the Federal-State unemployment compensation as rapidly as administrative experience and public understanding would permit. Although asking for the development of this social program, the President, however, declared, "we shall make the most lasting progress if we recognize that social security can furnish only a base upon which each of our citizens may build his individual security through his own individual efforts."

Seeking to find a solution to the problem of unemployment, the President on May 16 wrote a letter to Senator Joseph C. O'Mahoney, chairman of the Temporary National Economic Committee, urging the Committee to seek ways of bringing idle men and idle capital together to produce employment and prosperity. With respect to the immense amount of wealth which needed to be created he said that much of it could be created through private enterprise, although some could properly be created through quasi-public agencies.

Further information on the President's policy with respect to work relief was given in his objection to a House resolution of June 16 providing that \$125,000,000 be transferred from a general appropriation for work relief to the Public Works Administra-

## I. AMERICAN POLITICAL HISTORY

tion. In a letter of June 21 to Senator Byrnes of South Carolina, the President expressed the opinion that there was a better way of accomplishing the purposes of the bill. This was the undertaking of certain types of public improvements and betterments. During times when there is need for stimulus to employment, he said, "the Federal Government should furnish funds for projects of this kind at a low rate of interest, it being clearly understood that the projects themselves shall be self-liquidating and of such a nature as to furnish a maximum of employment per dollar of investment." He saw "no reason why there should not be adopted as a permanent policy of the Government the development and maintenance of a revolving fund fed from the earnings of these Government investments and used to finance new projects at times when there is need of extra stimulus to employment."

### LABOR

In an attempt to promote peace between the rival factions of labor, the President addressed a statement on March 7 to representatives of the A. F. of L. and the C.I.O. asking them to lay aside prejudices and bitterness and find a solution which would bring peace and unity in the labor movement. No such solution was reached, however.

When a deadlock resulted on the question of negotiating a new wage agreement in the coal industry, the President cautioned the negotiators on both sides to keep in mind the fact that the public interest was paramount and above any group. He asked them to continue negotiations until a settlement had been made but did not say what his next step would be in the event the deadlock continued.

In the face of threatened strikes by W.P.A. workers, the President issued the blunt warning, "You can't strike against the Government." On Oct. 4, he sent to the convention of the American Federation of Labor a plea for reconciliation of labor's warring factions, asking for an adjournment of small grudges and differences in

the world emergency. Once more his plea was of no avail.

### ADMINISTRATIVE REORGANIZATION

Acting under authority vested in him by the Reorganization Act of 1939, the President transmitted to Congress two reorganization plans which, by special action of Congress, became effective on July 1. In these plans he took steps to improve the over-all management, to improve the allocation of departmental activities, and to improve interdepartmental management. Among the important changes were the transfer of the Bureau of the Budget and the National Resources Committee to the Executive Office of the President; the setting up of a Federal Security Agency, a Federal Works Agency, and a Federal Loan Agency; the transfer of the Foreign Commerce Service of the United States from the Department of Commerce to the Department of State; the transfer to the Department of the Interior of the Bureau of Insular Affairs in the War Department; the transfer of the Inland Waterways Corporation to the Department of Commerce from the War Department; and the abolition of the National Emergency Council. The President stated that he had directed the Bureau of the Budget to study other interdepartmental transfers and consolidations which would be included in plans to be submitted to Congress at its next session. Later in the year the President reorganized the White House executive offices in order to promote efficiency in time of emergency.

### THE PRESIDENT AND THE SUPREME COURT

In a statement issued on Aug. 7, the President declared that the objectives of his struggle with the Senate over his Supreme Court reorganization plan had been won in spite of its temporary defeat. He made his claim to victory in connection with the signing of the so-called Court Administration bill, creating an administrative office for the Federal Courts. In support of his contention that the



## NATIONAL PERSONALITIES

judiciary battle had been won, the President listed this bill and six other objectives either enacted into law or accomplished through the opinions of the Supreme Court itself. He admitted that the precise method which he had recommended was not adopted but the objective was achieved. As further proof of his victory, the President cited recent attacks on the Supreme Court by ultra-conservative members of the bar, attacks which indicated how fully his liberal ideas had prevailed. Senator Burke of Nebraska at once took sharp issue with the President, declaring that even though the Court personnel had changed, the important consideration was that the Supreme Court itself, as an institution, remained intact.

### PARTY POLICY

In a number of statements throughout the year President Roosevelt em-

phasized the need for party unity and the continuance of the liberal policies of the New Deal. This was the theme of his Jackson Day speech on Jan. 7, 1939 and of his messages to the Young Democratic Clubs of America, particularly that of Aug. 10, wherein he issued the warning that the Democratic party would fail if it should go conservative in 1940. He stated further that "if we nominate conservative candidates, or lip-service candidates, on a straddlebug platform, I personally, for my own self-respect and because of my long service to, and belief in, liberal democracy, will find it impossible to have any active part in such an unfortunate suicide of the old Democratic party." He steadfastly declined to say whether or not he would run for a third term, declaring he would choose his own time for such a statement.

## NATIONAL PERSONALITIES

BY HAROLD M. DORR

ASSOCIATE PROFESSOR, UNIVERSITY OF MICHIGAN

### FRANKLIN D. ROOSEVELT

Growing demands for Congressional independence were indicated in the reception of presidential appointments and legislative proposals. The way was cleared for the confirmation of Frankfurter, Murphy, and Hopkins in a series of pre-session conferences in which certain legislative assurances were exacted from the President. He was forced to withdraw his nomination of Thomas R. Amlie (I.C.C.) and the Senate refused to confirm the appointment of Floyd H. Roberts to a Federal district judgeship because the nomination was considered "personally objectionable" to the Senators from Virginia. Likewise, the President's legislative program fared badly at the hands of Congress. From a political point of view, the defeats, modifications and delays encountered in the enactment of neutrality, relief, lending, and building legislation were especially significant. The passage of the Hatch law, designed to restrict

the political activities of Federal office-holders, was interpreted as the answer of the conservative Democrats to the President's threats of political reprisals.

In spite of these reversals, the President remained the most outspoken champion of liberalism and democracy. In his Jackson Day Dinner address, Roosevelt made a strong plea for party unity. Classifying conservative Democrats with the Republicans, a "Democratic tweedledum" and a "Republican tweedledee," he challenged the conservatives to make a bid for the control of the party with the admonition—"if the tweedledums are defeated they join the tweedledees." He warned the young Democrats that the success of their party depended upon their adherence to the principles of liberalism and their devotion to democratic ideals. In a message to their August convention, the President told the young Democrats that he could not actively sup-

## I. AMERICAN POLITICAL HISTORY

port the candidacy of a conservative and added by way of improvement upon his earlier statement: "The Democratic party will not survive as an effective force in the nation if the voters have to choose between a Republican tweedledum and a Democratic tweedledummer." The President's plan to carry the issue to the rank and file of the party in a contemplated western tour was abandoned because of the prolonged session of the Congress and the impending European crisis.

With the third term issue dominant in all political conversations, Roosevelt maintained a discreet silence throughout the year. Attorney General Murphy's statement, in late December, that Roosevelt would be a candidate only in case the nation faced a crisis was widely accepted as indicative of the President's attitude.

### JOHN N. GARNER

The Vice President maintained throughout the year his characteristic silence, but this silence could not be attributed to a lack of interest in governmental and political problems. Garner was generally thought to have moved directly through the year toward his December announcement. Beginning with the pre-session conference with the President, in which it is presumed that legislative proposals and presidential appointments were discussed, Garner spent many hours during the session of Congress closeted with cabinet members, senators, and representatives. His influence in both wings of the Capitol was readily admitted, and Garner is thought to have used that influence both to further and to stymie presidential proposals. He was accused of exerting pressure in both the House and Senate to secure the enactment of the Hatch bill.

In mid-summer the Vice President was the victim of a vicious attack by John L. Lewis. The C.I.O. leader, appearing before a House labor committee, castigated Garner as the "genius" of a campaign against organized labor and denounced him as a "labor-bating, poker-playing, whiskey-drinking, evil old man." The epi-

sode, it was predicted, would inure to Garner's political advantage. When told of the attack, Garner appeared amused and replied: "I have no comment to make. I never make criticism or comment on anything."

The Vice President was the only Democrat unequivocally to announce his candidacy for the presidential nomination. On Dec. 16, Garner announced in a 44-word formal statement that he would "accept the nomination for president," but added that he would "make no effort to control any delegates. The people should decide." Although Garner is sincere in seeking the nomination, the strategy appears to be to make a showing of strength which New Dealers, including the President, must recognize. Thus, if Garner does not win the nomination, he will at least be an influential force in the convention.

### FRANK MURPHY

In spite of his defeat in his bid for reelection to the governorship in Michigan, Murphy was not permitted to enjoy for long the quiet of private life. On Jan. 1, 1939, he was appointed Attorney General of the United States and subscribed to the oath of office and began his official duties on the following day. The anticipated attacks due to Murphy's handling of the labor situation in Michigan failed to materialize in serious proportions and the appointment was confirmed (Jan. 17) with only seven dissenting votes. Nevertheless, Murphy insisted upon appearing before the Senate Judiciary Committee to justify his labor record.

Soon thereafter (Jan. 19) the Attorney General announced as his first major objective the speeding up of litigation in the Federal courts with a view to clearing the dockets and therefore keeping the courts abreast of their work. The uncovering of the Manton scandal in New York gave Murphy, a recognized "good government" advocate, an opportunity to announce a second objective, *i.e.*, the elimination of spoils, graft, and dishonesty from all public offices. The Manton conviction and the conviction of Tom Pendergast were signifi-

## NATIONAL PERSONALITIES

cant steps in that direction. These cases were referred to by Murphy as "isolated battles" in a general campaign for clean, honest government. His intense interest in the eradication of discriminations in the enjoyment of civil liberties found expression in the establishment of a special unit within the Department. Murphy invited state and municipal authorities to join with the Federal Government in vigorous prosecutions for violations. The Department tightened its counter-espionage activities.

Announcing himself satisfied with the progress made with prosecutions under the anti-trust laws, Murphy redefined the policies of the Department and warned that investigations were to be carried into other fields. According to his interpretation the anti-trust laws were designed not only to protect the people against "consciously immoral acts" but against "practices which were economically harmful" as well. Murphy protested against needless friction between government and business and declared that it was not his purpose to harass business.

On at least two occasions Murphy further clarified his views concerning labor. Testifying before a congressional sub-committee, he heartily endorsed proposals to restrict the activities of private police and to forbid the use of labor spies and strike-breakers. On the other hand, he threatened to invoke the anti-trust laws against racketeering and collusive action by labor and farm organizations.

Early in January, 1940, the Attorney General was nominated by the President associate justice of the U.S. Supreme Court. The appointment was confirmed by the Senate.

### CORDELL HULL

The Secretary of State was one of the busiest and most harassed men in public life, yet Hull figured little in the political news of the year. Latin-America, the Far East, and finally the European crisis placed such burdens upon his time and energy that he had little opportunity to engage in other activities. His few public pronounce-

ments were limited almost entirely to some phase of American foreign affairs. He defended his trade agreement policy, called for an investigation of "tariff lobbyists," denounced isolation as a move in the direction of complete regimentation, and supported the President's neutrality proposals. About the usual number of reports of breaks between the President and the Secretary were circulated. Whatever may have been Hull's political aspirations, it would appear that he has been eliminated from the ranks of the serious contenders for the 1940 nomination. His one possibility lies in the chance that the President, in a swing toward the right, may designate Hull as a logical compromise candidate.

### JAMES A. FARLEY

When, early in the year, Farley was suggested as an excellent second place choice, his friends indignantly replied that he was not interested in the Vice Presidency but would be an aggressive candidate for the presidential nomination. They claimed that Farley already controlled a majority of the delegates. In spite of these claims he was never credited with an imposing vote in public opinion polls.

In May Farley embarked on a speaking tour which took him through Pennsylvania, Ohio, the Farm Belt, the Southwest to the Pacific Coast, and back to Washington. Although he made no less than 15 scheduled speeches, Farley as usual was more interested in meeting the organization leaders than he was in speech-making. Political observers were quick to designate this as parallel to the tour of eight years ago with this exception: Farley did not find it convenient to report to the President until mid-summer. Farley said that he felt the Democrats could elect the next president, but when questioned concerning specific candidates, replied: "It is futile to talk about candidates for 1940 until the President makes known whether he intends to be a candidate for reelection."

Although Farley kept his own council, talk of a break with the President was revived. The Postmaster General



## I. AMERICAN POLITICAL HISTORY

was blamed in some quarters for presidential reverses in Congress because of alleged half-hearted attempts to keep congressmen in line. It was generally conceded that the President was leaning more heavily upon other advisers; and Farley's delay in reporting on his western trip was regarded as evidence of strained relations. However, before sailing for Europe in late July, Farley spent a night at Hyde Park conferring with the President. Roosevelt designated this as just another of their conferences. Since his return from Europe Farley has neither participated in the third term controversy nor discussed specific candidates. He has generally been considered as opposed to the third term movement but has not indicated that he would use his influence against the President.

### HARRY L. HOPKINS

The newly appointed Secretary of Commerce made a favorable impression upon the members of the Senate when his appointment came before that body for confirmation. Questioned before the Commerce Committee concerning his earlier political activities and his administration of W.P.A., Hopkins' answers were frank and sincere. He readily admitted mistakes in the administration of W.P.A., and confessed that he was genuinely sorry for his active participation in politics. He explained his unbounded enthusiasm for the President and his policies with the statement: "I am on his team. That's the whole story." The nomination was confirmed after a five-hour attack by a vote of approximately two to one.

Hopkins disclosed his attitude toward business in a Des Moines, Ia., address (Feb. 24) in which he declared the period of social and business reforms at an end. His formula for business recovery may be summarized in terms of free enterprise, no additional tax burdens, more jobs, stimulation of Latin-American trade, and assistance to small business and agriculture. The new Secretary established a business advisory council consisting of eight leading executives

to study the problems of business and to adjust the differences between government and business. "The thing I am trying to do," he said, "is to take these discussions out of the realm of partisan politics on the one hand, and out of the realm of preachments by groups who believe the solution is easy, on the other."

Hopkins' program was interpreted as a policy of business appeasement and was widely regarded as his bid for the presidential nomination, the more so in that, in the course of the year, he reestablished his legal residence in the State of Iowa. However, the hopes of his friends that he would be a real crusader for business and establish himself as the leading Democratic contender were blasted by ill-health which kept Hopkins away from his office a greater part of the year.

### HAROLD L. ICKES

Secretary of the Interior Ickes was the most active, politically, of the President's immediate advisers. He continued in his favorite role as the chief defender of New Deal policies and the principal castigator of the President's critics. Later in the year he appeared to puncture with his characteristic barbs the trial balloons of all presidential pretenders, Democrats and Republicans alike.

Ickes demonstrates no enthusiasm for a third party. "The politicians," he explained, "through their state primary laws have seen to it since 1912 that there can be no successful third party." He said, however, that he would take the lead in calling a conference of the liberals if circumstances should warrant it, and that the liberals might call for a "sacrifice hit." Since a liberal bolt would almost certainly insure a Republican victory, this declaration was interpreted as a warning to the Democrats to support the President or a candidate of his choice.

### PAUL V. McNUTT

For a man so quietly retired (see *THE AMERICAN YEAR BOOK*, 1938, p. 11) the former High Commissioner of the Philippines has shown remark-

able recuperative powers. McNutt left the Philippines in early May and returned to Washington by way of China and Japan ostensibly to report to the President on Far Eastern affairs. At the conclusion of a series of conferences with Roosevelt, Farley, and others high in Administration circles, McNutt announced his resignation from the Philippine post. On July 11, the President appointed him to direct the newly-created Federal Security Agency. The appointment was confirmed by the Senate the following day.

In announcing the appointment, the President declared that it had been made solely upon a basis of demonstrated administrative ability and that it should not be interpreted as political preferment. The President said that McNutt was only one of 12 or 15 "charming" young men who might be regarded as potential presidential candidates. In spite of the admonition, the press designated the appointment as political and presented two possible explanations: (1) in view of the advanced stage of the McNutt campaign, the appointment might be calculated to check its progress; (2) the appointment might be regarded as presidential endorsement. In explanation of the latter point of view, it was pointed out that the Administrator has under his control an organization which touches the lives and happiness of millions of people and thus has at his disposal almost unlimited facilities for the conduct of a "non-political" campaign.

Whatever may have passed between the two men behind closed doors, McNutt has been provided with a national forum from which to expound his philosophy of social justice. The appointment has not interfered with the campaign, and his friends lay claim to 100 delegate votes from the northern seaboard states. McNutt has announced that his candidacy is contingent upon the President's refusal to stand for reelection. He was the only one of the outstanding candidates to express such a contingency.

## BURTON K. WHEELER

Senator Wheeler (Montana) re-established his position as one of the leading liberals in American politics. He was approached early in July by the leaders of the third term movement concerning his willingness to accept the second place position if Roosevelt should again be the candidate. Wheeler rejected the proposal with the remark: "I personally feel it would be a mistake for anyone to seek a third term." His explanation here, as in his refusal to support the President's court plan, revolved about the establishment of dangerous precedents. In mid-summer Senator Johnson of Colorado advocated Wheeler as the presidential candidate "who can unite the Democratic party." Although not professing to speak for them, Johnson declared that Wheeler "has the backing of numerous other influential party leaders, particularly in the West. . . ." Thereafter Wheeler was openly endorsed by many of the western Democrats.

With these endorsements, Wheeler praised Roosevelt's record and implied his own availability, but declared that party unity was more essential to a Democratic victory than the identity of candidates. Outlining more specifically his stand on domestic issues (Dec. 8), Wheeler said that the time has come to revise the Wagner Act, balance the budget, and stop waste and extravagance in government. He implied that he favored some measures for the appeasement of business. Upon the assumption that Roosevelt would not seek reelection, the C.I.O. indicated that its support might go to Wheeler.

## MARTIN DIES

Representative Dies (Texas), chairman of the special committee investigating un-American activities, was the most publicized member of the House. In a final report to Congress (Jan. 3, 1939), signed by seven of its eight members, his committee accused Secretaries Ickes and Perkins of attempting to cripple its activities and inferentially attacked Frank Murphy for his handling of the labor situation

in Michigan. Congress authorized the committee to continue its investigations. Cognizant of the widespread criticisms, the committee improved its techniques and avoided spectacular attacks upon persons in public life.

Dies says that he has no political ambitions and claims that his one interest is to expose un-American organizations and activities. He entertains doubts as to either the necessity or the desirability of drastic legislation. Dies described most of the organizations as dues-collecting rackets which can best be combated through investigation and publicity.

### FIGURE H. LaGUARDIA

La Guardia finished second only to the President in presenting the year's most perplexing political enigma. He gave scrupulous attention to his duties as Mayor of New York yet found time to keep frequent speaking engagements beyond the confines of his state. Insisting that local communities had exhausted their means to finance relief, he used his influence in Washington to prevent the curtailment of Federal funds. He attacked spoils and corruption in government, warned against sectional strife, and pleaded for an adjournment of partisan politics in the search of means for social and economic adjustments. Thus La Guardia in word and action distinguished himself as a leading liberal and made known his availability for furthering the cause; yet he offered no clue as to his own political course or ambitions. He insisted that the time was not ripe for the appearance of a third party but did not indicate an intention to carry his crusade into either of the major parties.

### HERBERT HOOVER

Ex-President Hoover was politically active throughout the year but did not indicate that he would again seek to enter public life in an official capacity. Nevertheless, he was charged with quietly rounding up delegates especially in the south and southwest. By the close of the year he was credited with the control of

102 "uninstructed but friendly" delegates. Whether or not his influence in the Republican convention will be as great as reported, it is, nonetheless, a fact that Hoover spent a greater part of the year shuttling back and forth between New York and his Palo Alto home. These transcontinental trips were interrupted with numerous prearranged conferences along the way. Hoover refrained from reference to specific candidates but repeatedly suggested that the Republican party should choose a nominee who would wage an uncompromising war against the New Deal. He recommended that the state delegations should, as far as possible, attend the convention uninstructed.

Hoover demonstrated a lively interest in both domestic and foreign problems. In a Chicago address (Feb. 1, 1939) he criticized the Administration's foreign policy and charged that the President was attempting to use American economic pressure to "make effective protests at acts of aggression against sister nations." "This world," he declared, "can never reach peace by threats and force." In later addresses he attacked the present lending and spending programs, warned against inflation and dictatorships, and lauded Republicans as true liberals. With the opening of European hostilities, Hoover proposed that foodships be granted the immunities and privileges of hospital ships, and that further restrictions be observed in aerial bombings.

In the autumn Hoover was approached indirectly on the question of his willingness to head a coordinated movement for relief of European war refugees. However, his services were not requested, and he later accepted an invitation to lead the drive for American relief to Finland. When this campaign became both successful and popular, Hoover was criticized, in certain quarters, for allegedly attempting to take Finnish relief from the control of the Red Cross with a view to enhancing his own reputation. The episode was quickly, although not quietly, closed and is related here only as evidence of the fact that Hoover is still re-



## NATIONAL PERSONALITIES

garded as a political figure of first importance.

### ALFRED M. LANDON

The titular head of the Republican party limited his political activities to those of a prominent citizen. He was the first recognized political leader to answer publicly Hitler's reply to the President's peace proposals. In a Kansas City address (May 3) he offered his support to any proposal Roosevelt might suggest to convene a peace conference. Landon argued that Hitler's reply did not close the door to further negotiations and urged the President to avoid all action which might jeopardize his position as a force for world peace. He accepted an invitation to attend a neutrality conference called at the White House (Sept. 20) just prior to the opening of the special session of the Congress. Defining the third term talk as "stuff and nonsense," Landon lectured the President for his refusal to state his position "definitely and forthrightly." Although he kept in close touch with the Republican organization, Landon refused to discuss specific issues or promote any particular candidacy.

### ARTHUR H. VANDENBERG

Vandenberg (Michigan) was widely recognized as the effective leader of the opposition and hailed as the minority's master strategist in the Senate. He waged an almost unceasing fight against alleged extravagances in government, presidential exercise of emergency powers, and the Roosevelt foreign policy. He led the fight against the repeal of the arms embargo and forced the hand of the Administration in the Far East by inducing the Senate to adopt his resolution urging the abrogation of our trade treaty with Japan. Vandenberg spoke in defense of free enterprise and denounced restrictive laws which "kill confidence and harness the activities of citizenship in the straitjacket of arbitrary control." In spite of his pronouncements and activities Vandenberg was generally considered to be far less conservative than Taft.

Recognized since 1936 as the most

available candidate for the Republican presidential nomination, Vandenberg refused to announce his candidacy. The Senator appeared pleased when "drafted" by a group of Michigan Republicans but said that he would be a candidate to succeed himself. A few days later he was quoted as saying: "No one would particularly wish to be receiver for this national bankruptcy. Of course I would not decline the nomination. . . ." Vandenberg recommended that the next Republican nominee pledge himself to a single term and, if possible, run on a platform looking toward a Republican coalition with conservative Democrats.

In spite of his own procrastinations and the vigorous campaigning of his rivals, Vandenberg was still regarded as the party's most available candidate. He is the organization candidate, and the party leaders are willing to play a waiting game. Nevertheless, many of the Senator's friends are worried that some popular young candidate may stimulate enough enthusiasm to stampede the convention.

### ROBERT A. TAFT

Senator Taft (Ohio) was not only the most energetic campaigner for the Republican nomination but was also among the most bitter and outspoken foes of the Administration. He was particularly violent in his attacks upon Roosevelt's fiscal program and foreign policies. In April he charged the President with playing politics with the international crisis and, later in the year, he accused him of using the war as a ruse to prosecute, under the guise of national defense, his spending, lending, and public works program.

Although Taft was busy throughout the year promoting his candidacy, he made no formal announcement until mid-summer. The week after Bricker announced (July 24) that he would not run, Taft authorized the use of his name for first choice designations in the Ohio primaries. He said that no sensible man should be eager to assume the presidency in these trying times, but added that if he were selected, he would: (1) attempt to

## I. AMERICAN POLITICAL HISTORY

balance the budget at around \$7,000,000,000, (2) revise the agricultural and security programs, return relief to the states, and modify the practices of the N.L.R.B. Since early September Taft has stumped much of the nation, carrying his campaign through the Farm Belt to the Pacific Coast, and into both the southwestern and north Atlantic states. He made an early bid for southern support and claims approximately 100 delegates from that section.

As the year closed political observers were of the opinion that Taft had actually lost ground in his campaign. It is pointed out that the Senator is lacking in political color and too frequently given to ill-advised statements such as his attack upon Federal corn loans during his visit to Iowa.

### THOMAS E. DEWEY

Dewey, who had captured public imagination with his spectacular "racket-busting" activities as District Attorney of New York, became little less than a national hero when he secured the conviction of James J. Hines on charges of bartering in "political protection." These successes, supported by his excellent record in the gubernatorial election, gave virtual assurance that Dewey would be a leading contender for the Republican presidential nomination. The great number of invitations to address civic and political organizations was evidence of his popularity. In May he received the Newman Foundation Award for 1938 (University of Illinois) awarded annually to an individual who has made "an outstanding contribution to the enrichment of American life." In August, Dewey returned to Owosso, Mich., ostensibly to visit his mother and be present for the elaborate homecoming celebration staged in his honor.

Dewey-for-President headquarters were established in New York, from which on Dec. 1 he was formally "drafted." Originally sponsored by the Simpson faction (with whom he was urged to break), Dewey, after consultations with Hoover and other leading Republicans, appears to have

won the support of almost all prominent New York state leaders. Youth and inexperience appeared as his immediate obstacles. However, it is now evident that he intends to capitalize on the former and overcome the latter by surrounding himself with capable advisers (dubbed by Secretary Ickes "a regency").

Dewey opened his campaign with a Minneapolis address which was followed in rapid succession by appearances in Washington, Philadelphia, and New York. In his opening speech Dewey directed a vigorous challenge at his critics. He eulogized youth and youthful energy and charged that the New Deal was dominated by a philosophy of "defeatism and despair." In his initial appearances Dewey demonstrated a remarkable degree of innate political adroitness and an abundance of political color. Although he has avoided commitments on specific issues, he has declared in general terms for a balanced budget and less restrictions on private business. In spite of his popularity, it is widely admitted that Dewey's chances of winning the nomination depend almost entirely upon his ability to "spread-eagle" the field in the pre-convention campaign.

### JOSEPH W. MARTIN, JR.

Republican floor leader and one of the ablest men in the House, Martin (Massachusetts) is credited with having welded together one of the most effective minority organizations in the history of Congress. Although the secret of his success lies in his popularity, industry, and familiarity with parliamentary procedure, the effectiveness of his organization must in no small measure be attributed to his ability to prevent factional squabbles, control debate, stimulate interest in the legislative program, and cooperate with the conservative Democrats. Martin insists that the Republicans can not "sit on the sidelines while the Democrats fumble themselves out of office." He believes further that the Democrats can not be defeated by the mere rehearsing of traditional Republican slogans. Members of the House, convinced of the soundness of

## THE YEAR IN CONGRESS

Martin's advice, have busied themselves with special studies out of which a constructive program may be formulated. Martin attended the White House conference (Sept. 20) convened to discuss neutrality legislation, and was invited by the President to remain in Washington after the adjournment of the special session for further consultations.

### JOHN W. BRICKER

Although previously well known in local Republican circles, Governor Bricker of Ohio attracted national attention for the first time in 1938 when he defeated a New Deal sponsored candidate in the Ohio gubernatorial election. In keeping with his pre-election pledges, Bricker cut hundreds of employees from the public payrolls and placed the state on a pay-as-you-go basis; and yet, for the first nine months of the year, was able to finance adequately all relief and social benefit agencies. However, seasonal relief demands of the early fall quickly exhausted available funds in certain metropolitan areas. Though threatened with a relief crisis, the Governor

refused to call the rurally dominated legislature into special session and declared that the emergency was a local problem. This attitude attracted national attention and invited criticism from Washington. Bricker retaliated by charging political manipulation of the W.P.A., especially in the Cleveland area, obviously for the purpose of embarrassing the state and discrediting a Republican administration.

Because of his anti-New Deal tendencies and his budget balancing abilities, Bricker was immediately regarded as a potential candidate for the Republican presidential nomination. However, it was generally recognized that his candidacy was jeopardized by the political aspirations of Senator Taft. The Governor solved the problem of twin favorite sons by announcing in mid-summer that he would not be a candidate. His statement implied that he would support Taft. Nevertheless, Bricker was regarded as a dark horse possibility and, as the year closed, his candidacy was taken more seriously than was that of his local rival.

## THE YEAR IN CONGRESS

BY GEORGE C. S. BENSON AND MABEL GIBBERD BENSON

UNIVERSITY OF MICHIGAN

### THE PRESIDENT AND CONGRESS

Whatever the faults of the American Congress, it became increasingly apparent during the third session of the 75th Congress that the charge of "rubber stamp" body could not fairly be leveled at it. This was especially true in the first session of 1939 when, of the eight major items on the presidential agenda, four were defeated completely and two were passed with substantial limitations.

Unquestionably the elections of 1938 had considerable effect upon the attitude of Congress. Whereas in 1938 the House was composed of 333 Democrats and 89 Republicans, in 1939 it included 262 Democrats and

169 Republicans. Democrats in the Senate numbered only 69 in contrast to the previous 75, and Republican Senators had increased from 17 to 23. Significant is the fact that, among the 13 new Senators and 117 new Representatives, there was not one case where a Democrat had replaced a Republican, whereas Republicans replaced 70 Democrats and nine members of smaller parties.

Obviously, however, the Democrats would have still controlled the vote in both Houses had they maintained a unified front on various issues. That they did not do so was due to numerous complicated, and sometimes obscure, factors. The "conservative" swing of public opinion as evidenced



## I. AMERICAN POLITICAL HISTORY

by the 1938 elections probably influenced many Democrats. Monetary policies split silverites from non-silverites. Labor policies tended to estrange South from North and West. And undoubtedly the "third term" issue, which resulted in at least two proposals for constitutional amendment covering presidential tenure, presented another hurdle to party cohesion.

The major presidential victories were the acceptance almost *in toto* of President Roosevelt's \$1,645,000,000 defense program and the continuance of his monetary control powers and the Stabilization Fund. Qualified success was achieved in connection with government reorganization and with the W.P.A. appropriation request. These measures are discussed below under the appropriate headings.

The most important of the presidential defeats during the first session were the failure to secure the full \$875,000,000 deficiency relief appropriation for which he asked; the failure to achieve the passage of the Self Liquidating Projects program; the refusal of the House to consider the expanded Public Housing Authority program; the approval, without providing new taxes, of the parity payments to farmers; and the failure to induce Congress to revise the Neutrality Act. Foreign events forced this last issue on the attention of Congress in a special session, and it is an interesting conjecture as to whether Mr. Roosevelt's leadership has not been largely restored in the course of the months since the outbreak of the European war. Certainly the members of Congress showed little of the recalcitrance in the special session which was so marked earlier in the year.

From Jan. 3 to Aug. 5, however, legislative history was being made on a sort of bloodless battlefield. There is perhaps some tendency to exaggerate every issue into a pitched conflict. Newspapers reported the "victory" of the President in connection with the Hyde Park Library and his "defeat" on the Hatch bill passage. The former, if it were a "personal victory," is hardly epoch-making, and

the act prohibiting "pernicious political activity" to all Federal office-holders except the President, Congressmen, and policy determining officials subject to Senate confirmation can not reasonably be deemed obnoxious to the President except in a limited sense. It is true that he favored control of "political activity" rather through the extension of civil service to an additional 200,000 positions (an administration bill unacted upon by the House) and through the blanketing into civil service of all W.P.A. administrative employees than through the Hatch bill, but it seems obvious that he did favor the Hatch bill. The conflict on this point was more probably between "favored" Democrats and unfavored Democrats plus all Republicans.

Real fights there were though on neutrality, lending program, housing program, parity payments, W.P.A., monetary control, N.L.R.B., wages and hours legislation, and tax revision. One of the most interesting of them concerned the gigantic "lending for recovery" program which is particularly interesting since it represents an attempt on the part of the President to secure approval of a basically changed policy of relief and recovery. This program, to cover from two to seven years, proposed that over \$3,000,000,000 of self-liquidating loans, financed through guaranteed government securities, be made available for (1) various municipal projects such as waterworks, sewage disposal plants, hospitals, etc.; (2) toll roads, bridges, high-speed highways, etc.; (3) railroad equipment; (4) rural electrification projects; (5) farm tenant program loans; and (6) foreign loans to promote American exports.

The Senate finally passed 52 to 28 (only two Republicans voting yea) a curtailed version of the administration bill which deleted the provisions for road, bridge, tunnel, and railroad equipment loans and reduced total loans from over \$3,000,000,000 to \$1,600,000,000. The House bill in similarly weakened form had been reported out of the Banking and Currency Committee but a coalition vote

## THE YEAR IN CONGRESS

in the House of 193 to 167 rejected consideration of it.

A number of exceedingly important measures passed by one House, now in conference, or otherwise pending face the third session of the 76th Congress. Very stringent anti-alien, anti-sedition, anti-espionage, anti-sabotage bills were passed in the first session by both House and Senate and await further action. Changes in the Fair Labor Standards Act, a comprehensive transportation bill, the Self-Liquidating Projects bill, the U.S.H.A. loan expansion program, all must be considered or reconsidered in the session now under way.

For a number of years this article has been noting that Congress was nowhere nearly as likely to agree with President Roosevelt as the newspapers have claimed. This point could not be denied in the first and second sessions of the 76th Congress. Unfortunately, it carries along with it what may be the inescapable results of our system of separation of powers—hasty consideration, hastier compromises, failure to integrate a legislative program.

### LEGISLATIVE PROCEDURE

Although the history of many controversial bills is treated elsewhere, a few examples of particularly interesting legislative procedure might appropriately be singled out for notice at this point.

The attempt to secure passage of the administration changes in the Wages and Hours Bill was under the direction of Representative Mary T. Norton who utilized ineffectively almost every possible parliamentary device. Planning to secure passage under suspension of the rules and thereby to exclude amendments, she tried, when this procedure seemed doomed, to recommit the bill to committee by unanimous consent. This failed, as did a later attempt to call the bill up under suspension of rules. A special rule request was then introduced, but since Mrs. Norton wanted a closed rule to prevent amendments and the opposition desired an open rule, the resolution remained in the Rules Committee until the last few

days of the session. Even after it was finally reported out, Chairman Sabath of the committee refused to call the bill up, probably because there was considerable support for amendments exempting large numbers of workers, and the bill was not voted on.

The career of the parity payment amendment to the agricultural appropriation bill was decidedly checkered. It was added to the bill by a vote of 175 to 171 while the House was sitting as committee of the whole. However, after the House resumed its formal character, a special vote on the amendment was demanded and the latter was defeated 204 (135 R—68 D) to 191 (168 D—20 R). The Senate returned the amendment to the bill and sent the matter back to the House where, under special rule, it was referred to conference. The parity provision appeared in the conference report which the House readily approved 180 (152 D—24 R) to 175 (129 R—45 D).

This triple reversal on the part of the House was, however, only an extreme example of what occurred several times during the session. On seven occasions the House rejected amendments which it had, in committee of the whole, approved. In one case, that of the amendment to the reorganization bill which provided for the effectiveness of plans within 60 days unless specifically rejected by one House, the House adopted it in committee, 176-155, and *on the same day* rejected it 209-193.

### APPROPRIATIONS

The total appropriations voted by the first session of the 76th Congress amounted to well over \$13,300,000,000, more than a \$1,000,000,000 higher than the figure reached in 1938. The breakdown of the total figure into direct, permanent, and deficiency appropriations is as follows.\*

\* Since some of these figures are estimates and others are susceptible of controversial inclusions or exclusions, it will be found that they differ slightly in different listings which have been published. However, the authors have seen no estimate in which the total (exclusive of some \$232,000,000 of reappropriations) was not between \$13,345,000,000 and \$13,350,000,000.

## I. AMERICAN POLITICAL HISTORY

Direct appropriation for regular departmental functions. . .	\$ 6,769,005,000
Direct appropriation for recovery and relief. . . . .	2,580,600,000
Permanent appropriations. . . .	3,624,812,775
Deficiency appropriation. . . . .	367,183,069
Miscellaneous (private, etc.). . .	4,046,400
Total. . . . .	\$13,345,647,244

Whereas direct appropriations for regular departmental functions increased over 1938 by over \$1,500,000,000, largely because of increased aid to agriculture (\$450,000,000 increase), and defense needs (a \$250,000,000 increase in Navy appropriation, a \$250,000,000 supplemental military appropriation). Direct relief appropriations showed a considerable decrease since 1938. In the total of \$2,580,600,000 as against \$2,915,405,000 in 1938, it should be noted that the \$825,000,000 which was used during the latter part of 1939 is included and that the 1940 appropriation was \$1,735,600,000, of which \$1,477,000,000 was for W.P.A. However, part of the presidential estimate for 1940 was contingent on the lending program which met defeat, and further money may be called for.

### APPROPRIATIONS OF 76TH CONGRESS—FIRST SESSION

(Arranged according to amount)

Relief (1939 and 1940). . . . .	\$2,580,600,000
Treasury-Post Office. . . . .	1,700,615,000
Treasury. . . . .	\$909,628,000
P.O. . . . .	790,987,000
Independent offices. . . . .	1,688,218,000
Military and Naval. . . . .	1,505,197,000
Navy. . . . .	\$773,049,000
War Dept., reg. . . . .	508,790,000
War Dept., supp. . . . .	223,398,000
Agriculture. . . . .	1,194,499,000
War Department—nonmilitary . . . . .	305,189,000
Interior. . . . .	172,680,000
State—Justice—Commerce. . . . .	122,177,000
State. . . . .	\$18,519,000
Justice. . . . .	50,907,000
Commerce. . . . .	52,751,000
District of Columbia. . . . .	48,002,000
Labor. . . . .	30,536,000
Legislature. . . . .	21,852,000
First Deficiency. . . . .	23,765,000
Second Deficiency. . . . .	157,619,000
Third Deficiency. . . . .	185,168,000
Urg. Deficiency. . . . .	3,099,000

In view of the constant Congressional clamor for economy, it is interesting to note that the appropriations amounted to \$190,823,096 more than the figure submitted by the President in his budget estimate. Of

the 15 headings listed in the above table, Congress increased the amount in only two cases, lowered it in 13, but the net result of a \$50,000,000 increase in appropriations to the War Department for flood control and rivers and harbors and of more than \$350,000,000 additional to the Department of Agriculture for parity payments to farmers and disposal of crop surpluses was to vitiate completely the "savings" of \$213,000,000.

### AGRICULTURE

**AAA Amendments.**—More than a dozen amendments to the Agricultural Adjustment Act of 1938—most of them of rather restricted interest—were passed. Among the amendments were bills providing a permanent minimum national allotment for cotton of 10,000,000 bales and for wheat of 55,000,000 acres.

**Crop Insurance.**—An amendment to the Soil Conservation and Domestic Allotment Act permits the Secretary of Agriculture to use the 1939 appropriation for conservation and use of land resources to pay crop insurance premiums of cooperating producers.

**Barter.**—Part agricultural, part defense, was the Byrnes bill to permit the President, with senatorial consent, to make agreements for the barter of surplus American agricultural commodities for reserve stocks of "strategic and critical" materials produced abroad. The Commodity Credit Corporation is to be the active agent, but the Secretary of Agriculture must set or accept the terms and the Secretaries of War and Navy may determine the nature, quality, and quantity of the materials accepted in exchange. The first such treaty was signed and approved by the Senate in June. It provided for the exchange of American cotton for British rubber. By another act, the Commodity Credit Corporation was empowered to sell not more than 500,000 bales of cotton under the proviso that it be held at least five years by the foreign purchaser except in case of war or national emergency.

**Pest Control.**—An additional \$1,750,000 was appropriated for imme-



## THE YEAR IN CONGRESS

diate use by the Department of Agriculture for cooperation with state authorities in checking insect pests.

**Payments.**—The agricultural appropriation bill carried \$225,000,000 allocated to parity payments to producers of wheat, corn, cotton, rice, and tobacco and \$48,000,000 for benefit payments to sugar growers.

**Crop Surpluses.**—Also contained in the agricultural appropriation bill was \$113,000,000 for disposal of crop surpluses.

**Soil Conservation.**—Appropriations covering soil conservation benefits amounted to \$500,000,000.

**Loans to Farmers.**—The Commodity Credit Corporation was allotted almost \$120,000,000 for loans to farmers.

### APPOINTMENTS

Out of approximately 11,000 nominations only 12 were rejected. At least two of the latter involved "senatorial courtesy," most merely concerned minor postmasters. Probably most controversial of the confirmations was that of Harry Hopkins as Secretary of Commerce (only two of the 58 favorable votes were cast by Republicans), but the session included a large number of important nominations: two new Supreme Court justices—William O. Douglas and Felix Frankfurter; Attorney General Frank Murphy; Congressional Librarian, Archibald MacLeish; John Carmody, Federal Works Administrator; Jesse Jones, Federal Loan Administrator; Paul V. McNutt, Federal Security Administrator; Commissioner of the Philippines, Francis B. Sayre; William H. Leahy, Governor of Puerto Rico; Comptroller General Fred Brown; and Director of the Budget Harold D. Smith.

### BANKRUPTCY

A new chapter was added to the comprehensively revised Bankruptcy Act of 1938 which is intended to aid railroads in temporary financial difficulties necessitating some adjustment of capital structure but not complete revision. Any railroad either at the time or within the previous ten years in receivership or process of reorgani-

zation can present an adjustment plan approved by the Interstate Commerce Commission and accepted by a substantial percentage of various classes of creditors directly to the appropriate Federal district court. A special three-judge court would conduct hearings and, upon being satisfied, it could approve the plan which could then be carried out without further reference to the I.C.C. If it seems desirable, the court can, with approval of I.C.C., modify the plan before approval.

### BANKS

The existing law under which banks having deposits of \$1,000,000 or more must become members of the Federal Reserve System in order to have their deposits insured by the F.D.I.C. was repealed. The extension to June 1945 of loans made to executive officers of Federal Reserve member banks prior to June 1933 was approved.

### BUSINESS

#### Securities Exchange Commission.

—A new title known as the Trust Indenture Act was added to the Securities Act of 1933 which provides additional protection to investors by requiring continuing—not only initial—disclosure of pertinent financial information for investors and security holders and assures to them disinterested trustees. It also sets up further safeguards in connection with securities sold in interstate and foreign commerce and through the mails.

**Copyrights.**—Jurisdiction over prints and labels used in connection with sale or advertisement of articles was transferred from the Commissioner of Patents to the Register of Copyrights and appropriate adjustments made in connection with the change.

**Hot Oil.**—The present act which makes it a Federal offense to move oil in violation of state proration laws in interstate commerce was extended to June 30, 1942.

### CIVIL SERVICE

Important extensions of the civil service system were incorporated in the revised Social Security Act.

## I. AMERICAN POLITICAL HISTORY

Beginning Jan. 1, 1940 the Social Security Board was given power to require that the state agencies cooperating in old age assistance, unemployment compensation, aid to dependent children, maternal and child health, aid to crippled children, and aid to the blind, establish and maintain personnel standards on a merit basis. The Board itself is limited to requiring an acceptable civil service system; it has no direct authority in connection with selection, tenure, or compensation of employees under these merit systems. By implication, however, the statute may give the Board an opportunity to influence selection of employees not under the merit system.

### C. C. C.

The Civilian Conservation Corps was continued until July 1, 1943, and \$295,000,000 appropriated for it in the Independent Offices Appropriation Act.

### COURTS

An act was passed which provided that material portions of evidence may be included in the records certified to the Supreme Court by the Court of Claims in response to writs of certiorari. As a result of this change the Supreme Court is empowered to review assignments of error from the Court of Claims and to find that there may be lack of substantial evidence to support a finding of fact or that the evidence does not sustain the finding.

### DEFENSE

With only one significant change the President's comprehensive \$1,645,000,000 defense program was adopted with little opposition. In addition to the \$1,505,197,000 listed under Appropriations for the military and naval departments, over \$140,000,000 more was voted for defense purposes in the Deficiency Acts, and a total of 65 defense bills became laws.

The Secretary of War was authorized to expend \$300,000,000 to equip and maintain 6,000 serviceable airplanes of which 5,500 were to be ready by July 1, 1941. The basic allotment of enlisted men within the

regular Army to the Army Air Corps was increased from 21,500 to 45,000, and the Civil Aeronautics Authority was authorized to spend \$5,675,000 in 1940 and \$7,000,000 in each of the ensuing four years for the training of 20,000 civilian air pilots a year.

The commissioned strength of the Army was increased from 14,659 to 16,719. The sum of \$34,500,000 was authorized for 1940-1942 and \$2,000,000 annually thereafter for "educational" orders for war equipment to American companies, in order to forestall inefficiency and delay in the event of sudden needs. Almost \$24,000,000 was approved for the strengthening of Panama defenses and \$277,000,000 for the construction of a third set of locks in the Canal.

For the creation of new and strengthening the old naval air bases, excluding the one at Guam requested by the President, Congress authorized an expenditure of \$65,000,000 for 14 projects within the United States and its dependencies.

The acquisition of stocks of strategic war materials not abundantly produced in the United States was approved, and \$100,000,000 authorized for that purpose. Whereas provision was made for purchase from foreign countries, the act particularly recommended the development wherever possible of domestic sources of supply, and the cooperation of the Bureau of Mines and the Geological Survey was ordered.

Another \$15,000,000 was authorized for the modernization of submarines and battleships. Profits on all army aircraft contracts were limited to 12 per cent.

Money was definitely appropriated for considerably expanded defense activities in the various appropriation bills. A total of almost \$185,000,000 was provided for the Army Air Corps plus some \$65,000,000 for construction of flying fields and similar facilities; over \$117,000,000 was voted to the ordnance department. "Educational orders" were financed to the extent of over \$14,000,000. Of the naval appropriations \$253,000,000 will be devoted to continuing work on 121 naval vessels and starting work on 23 new

## THE YEAR IN CONGRESS

ones, while \$55,000,000 will go toward the construction of new naval air bases, the aeronautical laboratory, and various other naval public works projects. Supplementing direct appropriations for 1940 were authorizations to let contracts totalling about \$220,000,000.

### FISHING

Part relief project, part aid to industry is the act authorizing the Federal Surplus Commodities Corporation to use up to \$1,500,000 per year to purchase surplus fishery products (exclusive of canned goods) and to provide for their distribution through Federal, state, and private relief channels. No part of the money may be used to purchase commodities produced in foreign countries.

### FLOOD CONTROL

Certain technical amendments were made to earlier flood control acts, new preliminary surveys were authorized, the payment of an additional \$2,000,000 for the Muskingum River Valley reservoirs which are part of the Ohio River flood control project was authorized, and some cases where the requirement of local assumption of certain costs might be waived were outlined.

### GOVERNMENTAL ADMINISTRATION AND PERSONNEL

**Under Secretary of Commerce.**—There was created in the Department of Commerce the office of Under Secretary of Commerce to be filled by presidential appointment with senatorial confirmation and carrying a salary of \$10,000 a year. The Under Secretary is to perform the duties of the Secretary when the latter is absent. One of the two offices of Assistant Secretary of Commerce is eventually to be abolished, that is, when a vacancy occurs it is not to be refilled.

**Court Administration.**—For the management of the administrative aspects of the Federal judiciary an administrative office of the United States Courts has been set up. A director, appointed by and serving at the pleasure of, the Supreme Court,

and receiving \$10,000 a year, is to be in active charge, although he will serve under the supervision of a conference of senior circuit judges. His duties include: charge of administrative personnel, supervision of dockets including the responsibility for estimating when and where need of assistance will occur; preparation of reports on business transacted; purchasing of supplies; auditing of accounts and vouchers; and preparation of estimates of expenditures and appropriations for the Budget Bureau. The Conference of Senior Circuit Judges is to meet semi-annually to consider and act upon the reports of the director, and each senior circuit judge is to meet annually with his circuit judges, district judges, and certain members of the bar in order to discuss methods of improving and expediting the administration of justice.

**Retirement of Judges.**—Federal judges appointed on good behavior tenure may now retire because of permanent disability. They will receive full pay if they have served more than ten years; half pay, if less.

**Tax Administration.**—An important change was made in the administration of Federal taxation. The Income Tax Unit of the Bureau of Internal Revenue has been decentralized and administrative staffs set up in various key cities. In cooperation, the Board of Tax Appeals has arranged that cases can be heard in these districts, and as a result difficulties of the taxpayer can be settled close to home rather than in Washington.

### GOVERNMENT FINANCE

The Commodity Credit Corporation and the Export Import Bank were continued until June 30, 1941. The lending capacity of the latter was limited to \$100,000,000, the amount of its capital. The former agency was empowered to increase its outstanding notes from \$500,000,000 to \$900,000,000.

The Reconstruction Finance Corporation and the Electric Farm and Home Authority were continued until June 30, 1941. The capital stock of the Disaster Loan Corporation was



## I. AMERICAN POLITICAL HISTORY

increased from \$20,000,000 to \$40,000,000 and its authority to make loans was continued through 1939 and 1940.

The \$30,000,000,000 maximum on long-term bond issues was removed so that within the \$45,000,000,000 public debt limit the Treasury could at discretion adjust its financing to market conditions.

### EXTENSION OF STABILIZATION FUND

One of the most controversial of the financial measures was that dealing with extension of the \$2,000,000,000 Stabilization Fund and with the President's power to fix the value of the dollar. The President had asked for the continuation of these powers almost immediately after the convening of Congress, and the House on April 21 had passed without a record vote a bill continuing the Fund and the President's authority for two additional years, after an attempt to recommit the measure with instructions to delete the section on Presidential powers was defeated by a vote of 225 to 158. Not a single Republican voted against recommitment, and the only Democrats who voted for it were Dies, Kilday, Nonham, and West, all of Texas.

When the bill was taken up in the Senate, however, the coalition of various opposing groups nearly prevented its passage in any but an unrecognizable form. Silverite senators who wished to force an increase in the price paid for domestically mined silver filibustered for six days until on June 26 the Senate adopted 48 to 30 an amendment fixing the price at 77.57 an ounce and *viva voce* an amendment terminating immediately Treasury purchases of foreign silver. Although it has been said that the higher silver price was a "Democratic measure" supported by Republican anti-New-Dealers in exchange for silver-Democrat support of an amendment to terminate the President's power over the gold content of the dollar (see below), the political alignment on these amendments is not entirely clear. The numerical similarity in the votes is misleading (48-30 and 47-31). Although 16 Republi-

cans voted for the 77.57 price for silver, so did 30 Democrats among whom were several not easily classified as either silverite or anti-Roosevelt. The amendment terminating the executive power over the dollar was passed on the same day 47-31, but 11 Democrats and two Republicans voted against it who had voted for the silver price and two Republicans and 10 Democrats voted for it who had voted against the silver price. With these amendments the bill continuing the Stabilization Fund was passed without a record vote.

The Conference Committee submitted a bill which was taken up in the two Houses on June 30, the day on which the old authority expired. This bill proposed to continue both the Stabilization Fund and the presidential power to devalue the dollar by another nine points, fixed the price for domestically mined silver at 71.11 cents an ounce, and authorized continued purchases of foreign silver by the Treasury. The House accepted the report 229 to 160, only seven of the 229 voting Democrats recording nay while only three of the 156 voting Republicans recorded a yea, but in the Senate opponents were both more numerous and more successful. The deadline passed with no action having been taken but the Attorney General ruled that the powers could be revived by passage of the "continuing legislation" even after their formal expiration. On July 5 the Senate accepted the conference report by a vote of 43 to 39, only one Republican casting a yea vote.

### GOVERNMENT REORGANIZATION

The attempt to bring order into the organization of the 135 Federal departments and agencies, with their 500 distinct bureaus, which has become known as "government reorganization," was a stormy petrel of the 1938 session, but it became sufficiently tamed in the course of 1939 to find itself acceptable to the 1939 Congress, or at least to the Democratic Congressmen. While in 1938, 108 Democratic representatives "halted" on the administration proposal, the

## THE YEAR IN CONGRESS

vote on the clipped 1939 version was almost on straight party lines in both Houses. In the Senate only two Republicans joined the 58 Democrats in favor of the measure, while only three Democrats aligned themselves with 20 Republican "nays." In the House only five of the 239 voting Democrats opposed the bill, while only eight of the 156 voting Republicans approved it.

The 1939 version was in fact stripped of most of the controversial points of its predecessor: it did not authorize the creation of the new Department of Welfare, nor the transference of the functions of Comptroller General and General Accounting Office to the Budget Bureau, nor the delegation of government audits to an independent Auditor General, nor the substitution of a single civil service administrator for the Civil Service Commission, nor very extensive presidential discretion in the extension of civil service. What it did do was to empower the President until Jan. 20, 1941 to prepare plans for the transferral of agencies or their functions in whole or part to other agencies or for the consolidation of functions of agencies and to abolish such as are thereby rendered superfluous. Certain limitations are set forth. In the case of 21 specified independent agencies, functions may be transferred to but not away from them; no executive department can be abolished or stripped of all functions; and no emergency agency can either be continued beyond its statutory duration or be assigned any unauthorized function. More liberal toward the executive is the provision that any plan submitted to Congress becomes effective at the end of 60 days unless disapproved by *both* Houses concurrently. A vestige of the original proposal is the authorization of six new administrative assistants for the President at salaries not to exceed \$10,000.

While the majorities by which the reorganization bill passed (246-153 and 63-23) seem sizable, amendments which would in effect have given Congress enormous power to obstruct presidential proposals were rather

narrowly avoided. A House amendment which provided for invalidation of any proposal by disapproval of either House was defeated rather narrowly by a "party" vote of 209 to 193. Democrats to the number of 207 and no Republicans voted against it. A Senate amendment requiring specific approval by both Houses was first adopted 46 to 43, then rejected 46 to 44. (For details of reorganization, see "Federal Administrative Agencies," pp. 31-37.)

### HOUSING

Although the administration program to increase by \$800,000,000 the F.H.A. loan authorizations and by \$45,000,000 the annual Federal subsidies was defeated in the House, some important housing legislation was passed.

The National Housing Act was amended to provide for the continuance until July 1, 1941 of insurance of modernization loans up to \$2,500; or the increase from \$3,000,000,000 to \$4,000,000,000 of permissible outstanding loans; and for the indefinite extension of power to insure mortgages up to 90 per cent of value for a 25-year period on small new owner-occupied homes.

A provision was inserted which prohibits the insuring of mortgages on rental or multiple dwellings unless the contractor certifies that local prevailing wage scales have been paid to workers during construction of the buildings.

A national census designed to secure information about the number, character, distribution, etc. of dwelling structures in the United States was authorized to be conducted in connection with the 1940 population census, and an appropriation of \$8,000,000 was provided to cover expenses. The H.O.L.C. was granted discretionary power to extend the period of loan amortization from 15 to 25 years.

### PAN AMERICANISM

A House resolution authorized the President to utilize all facilities of government departments to foster closer relationships between the

## I. AMERICAN POLITICAL HISTORY

United States and the other American republics and authorizes appropriate advisory committees.

A general treaty between the United States and Panama was approved by the Senate. Of the 65 confirming votes, 59 were Democratic, 4 Republican. All the dissenting votes were cast by Republicans.

### PHILIPPINE INDEPENDENCE

Certain adjustments were made in the Philippine Independence Act of 1934 which in effect substituted for the increasing Philippine export duties from January 1941 to July 1946 a series of decreasing tax-free quotas of Philippine goods for entrance into the United States.

### INTERSTATE COMPACTS

Permission was granted for a two-year renewal of the existing interstate oil compact to conserve oil and gas which was signed by Colorado, Kansas, Michigan, New Mexico, Oklahoma, and Texas. Consent was also accorded to the Rio Grande Compact among Colorado, New Mexico, and Texas for distribution of the waters of the Rio Grande. Approved, but pocket vetoed by the President, was an Atlantic States Compact for the coordinated control and conservation of fishery resources.

### LABOR

Relatively little labor legislation was passed during the 1939 session. The provisions requiring payment of prevailing wages in connection with federally insured building projects was noted under Housing. One minor amendment to the Wages and Hours Act was passed. It excludes from the minimum wage and maximum hour provisions switchboard operators in public telephone exchanges having less than 500 stations.

Most spectacular of the actions of the House concerning labor was the approval of the N.L.R.B. investigation by a vote of 254 to 134 in which 103 Democrats joined the practically solid Republican affirmative vote. The aim of the investigation is to discover whether the Labor Relations Board has been consistently fair and impartial, whether it has "written in"

its own interpretation of the Wagner Act in the course of its hearings, whether the existence of the Board has had any appreciable effect in either increasing or decreasing labor disputes and employment, and what, if any, amendments in the act or changes in personnel are desirable. Three Democrats and two Republicans were appointed by the Speaker to compose the committee of investigation. Of these, two are admittedly "conservative"; two can be classified as "friends of labor"; and one, for whom the 1939 session was his first in Congress, temporarily unclassified, although presumably of conservative tendency.

### NEUTRALITY

Although in the House the Administration revision of the existing Neutrality Act passed 200 to 188, the bill died in the Senate Foreign Affairs Committee during the first session. Senator Borah's other sources of information as to the likelihood of war, however, proved inaccurate, and consideration of neutrality legislation was forced on Congress in a special session called in September.

On Nov. 3, by a vote of 243 to 172 in the House and 55 to 24 in the Senate, the Administration program was adopted almost *in toto*. Included in the revision of the Neutrality Act were: (1) abolition of the arms embargo; (2) prohibition against entrance of American vessels into combat areas; (3) restriction of travel by American citizens in combat areas; (4) mandatory cash basis for all sales to belligerents and prohibition of any future loans to warring countries; (5) control over solicitation of funds for belligerents; and (6) continued regulation of the arms traffic by the Munitions Control Board.

### REVENUE

When on Jan. 5, 1939, the budget was presented to Congress, receipts were estimated at \$5,669,320,000 and expenditures at \$9,095,663,200; accordingly a deficit of over \$3,300,000,000 was anticipated. At present it seems likely that the deficit will be smaller, but even in that case the public debt



## THE YEAR IN CONGRESS

will be close to \$44,500,000,000, and the present 1940 session may well hear rumors of an increase of the statutory debt limit above the present \$45,000,000,000 maximum.

In his budget message and subsequently, the President favored new taxes to finance parity payments to farmers, a lower income tax exemption figure, and somewhat higher rates on middle income tax brackets. Congress followed none of these suggestions. In fact, on the whole its actions on taxation and revenue were designed rather to make certain fundamental changes in tax policy than to increase revenue.

One action which was important, although it involved no fundamental change in tax laws, was the approval of the codification of the Internal Revenue Laws. This work has been actively under way since 1930, and the past year the Joint Committee on Internal Revenue Taxation presented to Congress a complete codification. Both Treasury Department lawyers and members of the Department of Justice aided in the work, and there is now available in one unit the various provisions of some 35 separate statutes.

### TAXATION OF FEDERAL SALARIES

For 120 years incomes from Federal salaries and securities have been legally exempt from state taxation. For a shorter time, but still "traditionally," income from state and municipal salaries and securities has been exempt from Federal taxation. With the rapidly increasing number of such employees, with the temptation to the wealthy to evade any comparatively equitable taxation by investment in these tax-exempt securities, and with the growing need for additional governmental revenue, laymen and judges have recently tended to eye this "immunity" with disfavor. The first spectacular breaks with tradition came in 1938 when the Supreme Court upheld the validity of Federal taxation on incomes of Port of New York Authority employees. The President had earlier in his term asked for the removal of such ex-

emptions from the Federal income tax, and after the decision of the Supreme Court he renewed the request. In his opinion the entire issue should be tested at once, and he advocated legislation which removed immunity from both salary and security income. Congress, however, limited the issue, and in the Public Salary Tax Act merely provided for reciprocal taxation of state and Federal salaries. The bill was passed by the House on Feb. 7, 270 to 104. Democratic approval was overwhelming (198 of the 216 voting Democrats recorded yeas); Republicans were fairly evenly split (68 yeas—86 nays). By the time the Senate reached consideration the Supreme Court had declared that a nondiscriminatory state tax on the income of a Federal agent was legal, and the Senate passed the bill without a record vote. The additional revenue through Federal income taxes has been estimated at \$16,000,000. The additional revenue to the 24 income taxing states will probably be considerably smaller.

### THE REVENUE ACT OF 1939

Although after the passage of the Revenue Act of 1938 (it will be remembered, the President refused to sign), the undistributed profits tax in its greatly modified form was hardly significant enough to warrant the amount of controversy it elicited, it continued to be a sort of symbol both to "business" and to "the Administration." The President consistently defended its basic theory; business leaders consistently attacked it as pernicious in theory and in practice. In fact, the problems of taxation during 1939 resulted in so many conflicting cross currents of opinion that any comprehensive revision of the tax structure was precluded: a Congressional subcommittee was working on a "business appeasement" program; the President would agree to the elimination of the undistributed profits tax only if penalty sections against undue accumulation of corporate surpluses were strengthened and the revenue not reduced; the Secretary of the Treasury guardedly advocated the re-

## I. AMERICAN POLITICAL HISTORY

peal of taxes on undistributed profits, capital stock, and excess profits but refused to suggest appropriate corporation tax rates necessary to compensate for the revenue which would be lost.

The report of the Ways and Means Committee was admittedly a merely temporary adjustment. It permitted the undistributed profits tax on corporations earning more than \$25,000 annually to expire on Dec. 31, 1939, and a flat rate of 18 per cent on their net income was substituted. Provisions of the 1938 law governing corporations earning less than \$25,000 were renewed, as were existing excise taxes and postal rates. The excess profits tax and the capital stock taxes were not eliminated. Provisions covering the treatment of corporate losses were liberalized to permit the deduction of long-term corporate losses from any income, although short-term losses are applicable only to the extent of short-term gains. Certain privileges formerly accorded banks, insurance companies, and corporations in United States possessions were discontinued. In order to eliminate the inequities resulting to those who, like authors, receive in a lump sum the returns for several years of work, it was provided that an individual receiving in one year payment for five or more years' work shall not be subject to a tax greater than that he would have paid had the sum been received in equal yearly portions over the period. The report was passed by the House, 357 to 1, and by the Senate with negligible changes (to which the House agreed without conference) without roll call and without a dissenting voice.

### ROOSEVELT LIBRARY

The Archivist of the United States was authorized to accept for the Government 12 acres of the President's Hyde Park, N.Y. estate together with such books, manuscripts, maps, etc. as the President shall donate. A library shall be constructed on the grounds and all subsequent care and maintenance shall be provided by the Government. Provision is also made for the future acquisition by gift or

purchase of additions to the collection.

### SOCIAL SECURITY

**Amendments to the Social Security Act.**—For 50 days the House Ways and Means Committee held hearings on the existing Social Security Act, and for another six weeks the members conferred in executive session. What emerged was a comprehensive plan of amendment embodied in one bill which passed the House on June 10 by the overwhelming vote of 361 to 2. On July 13 it was approved by the Senate 57 to 8, but that body had attached 182 amendments. Actually, that number is misleading. Most of them were clerical in nature, and the only really significant senatorial change was in favor of a 2 to 1 (rather than 1 to 1) Federal contribution to old age pensions. The Senate conferees receded on this finally and all minor differences were adjusted, and the conference report was presented to the two Houses. The Senate approved it 58 to 4; the House passed it *viva voce*.

**Administrative Changes.**—As part of the first Reorganization Plan (*q. v.*) the Social Security Board became a part of the Federal Security Agency and thus came under the direction of the Security Administrator. The Employment Service was taken from the Department of Labor and merged with the Unemployment Compensation Bureau of the Board in a new Bureau of Employment Security.

**Personnel Changes.**—The Board was given power to require civil service systems for state agencies cooperating in old age assistance, unemployment compensation, aid to dependent children, maternal and child health, aid to crippled children, and aid to the blind.

**Fiscal Changes.**—(a) The funds deposited by the Railroad Retirement Board in connection with the Railroad Unemployment Insurance Account are to be added to the state unemployment funds held in the Treasury. (b) The following increases in Federal grants to various state-administered social services were approved: an additional \$2,020,000 a

## THE YEAR IN CONGRESS

year for maternal and child health; an additional \$1,020,000 a year for crippled children; an additional \$3,000,000 a year for Public Health, and an additional \$3,500,000 a year for Vocational Rehabilitation. (c) In addition to the general grants noted above, the amount of state money which will be "matched" by Federal funds, was increased in connection with several of the services. For old age assistance the Federal Government will now match state contributions up to a state total of \$20 a month instead of the original \$15. State appropriations for aid to dependent children will now be doubled up to a total state figure of \$9 a month for one child and \$6 a month for each additional child per family. Formerly the Federal contribution was set at 33⅓ per cent of the total \$18 and \$12 per month. As in the case of old age assistance, the Federal Government will now contribute one half of the sum in aid to the blind benefits up to a total of \$40 a month instead of a total of \$30 as formerly. (d) Changes have been made in the payroll taxes in connection with unemployment insurance and old age insurance. Formerly unemployment insurance taxes were levied on the entire income. They have now been restricted to the first \$3,000 of the individual's salary. Under the old law progressive increase of the old age insurance tax was scheduled to commence in 1940 with a rise from 1 per cent to 1½ per cent. The amendment provides that the 1 per cent rate shall remain in effect for three more years.

**Changes in Coverage.**—(a) Revisions in the Unemployment Insurance title of the Social Security Act will add approximately 200,000 bank employees to the covered group. (b) The provisions concerning old age insurance have been altered so as to include seamen, bank employees, and employed persons over 65. It is estimated that approximately 1,700,000 persons will be added in this way. Payment of old age annuities was advanced from Jan. 1, 1942 to Jan. 1, 1940.

**Changes in Benefits.**—A sweeping

alteration of the basic policy in connection with old age insurance is contained in the 1939 revision. The new system, briefly expressed, marks a shift from the individual as a unit to the family as a unit. For instance, under the old law there was no distinction as to benefits payable between the married and the unmarried. An entirely different scale of benefits is included in the amended section. According to the latter, an unmarried man or one whose wife is under 65 and who receives \$100 a month or less, will receive higher benefits than he would have formerly received if he has been covered for any period up to or including 20 years. If he earns more than \$100 a month he will receive proportionally larger benefits under the new law up to and including 10 years of coverage. For longer periods of coverage the old law provided more liberal annuities for the single man or for the man with a wife under 65 than does the new one, but consistently higher benefits are obtainable under the latter for all periods of coverage and for all salary levels by the man with a wife over 65. Specifically she adds 50 per cent to the basic "single man" pension.

This basic or "primary" benefit is itself calculated upon a revised scheme. Formerly benefits were figured upon total earnings; they are now figured upon average monthly earnings. The pension which a man receives is equal to 40 per cent of the first \$50 of his average salary during the period from January 1937 to the date of retirement, plus ten per cent of the amount by which his earnings exceed \$50 a month (up to a maximum of \$250 a month) plus one per cent of the combined 40-10 per cent sum for each year in which he has earned at least \$200 a year in covered employment.

Widows of annuitants, if they themselves have reached the age of 65, are entitled to a monthly benefit equal to 75 per cent of the husbands' benefits. The widow of a fully insured individual who is left with minor dependent children will likewise receive 75 per cent of the monthly



## I. AMERICAN POLITICAL HISTORY

benefit to which the husband would have been entitled had he been 65 at the time of his death for such a period of time as she has dependent upon her children below the age of 16 or, if in school, below the age of 18. In addition she will receive 50 per cent of the husband's calculated benefit for each minor child.

If a fully insured individual dies leaving neither widow nor children entitled to benefits, each parent who has reached the age of 65, was dependent on the individual, and is not in his own right entitled to any benefits will receive 50 per cent of the deceased individual's benefit calculated upon the same basis as in the other cases.

One additional change was made which it is believed will be valuable in making the scheme fiscally self-supporting without the imposition of new taxes. Under the former law, if an insured individual died without leaving anyone legally entitled to benefits, the estate could claim a lump sum based on  $3\frac{1}{2}$  per cent of the total wages received by the insured individual while covered. This provision has been amended to provide that the estate in such case is entitled to a sum six times that of the monthly benefit which the deceased would have received had he been 65 at the time of death. The difference in the case of persons covered for a long period of time is substantial, and since it is estimated that 40 per cent of those now 21 will die before the age of 65, the saving to the fund is considerable.

**Rejected Schemes.**—The fate of other famous "security" schemes in Congress is interesting. The Townsend plan was defeated in the House 302 to 97. The Democrats voted against it 5 to 1; the Republicans not quite 2 to 1. Another pension plan, not quite so ambitious, which provided for the payment of \$40 a month to all needy aged was defeated in the Senate 55 to 16.

### TENNESSEE VALLEY AUTHORITY

When the Independent Offices appropriation bill came before the House, the \$17,206,000 item covering

T.V.A. projects was stricken out 159 to 122, but it was restored in the Senate and the bill approved. Subsequently the conference report was accepted by the House 184 to 175 but only six Republicans swelled the winning total.

The Norris bill to permit T.V.A. to issue \$100,000,000 of bonds with which to purchase power facilities of utility companies was approved by the Senate without a record vote, but it failed to reach the floor of the House for two months. What emerged from the Military Affairs Committee was a new bill, cutting the bond authorization to \$61,500,000, restricting T.V.A. to the drainage basins of the Tennessee and Cumberland, requiring that T.V.A. reimburse the Government for expenditures in its behalf and set up at once a sinking fund for this purpose, and subjecting T.V.A. finances to approval of the General Accounting Office. This was accepted by the House 192 to 167. All but five of the 163 voting Republicans favored this substitute bill while only about a quarter of the Democrats voted for it.

In order to force consideration of his measure, Senator Norris had successfully attached it as a rider to the already passed measure removing the \$30,000,000,000 limit on long-term debts, but this was dropped when conference action seemed to be progressing favorably. The conference report included the House figure of \$61,500,000 in place of the higher Senate one, prohibited refunding of T.V.A. bonds, and did define the areas within which the money derived from these bonds could be used, but it did not set general limitations on the expansion of T.V.A. nor provide for amortization of outstanding bonds. On the whole it seemed to be a fairly satisfactory compromise and was approved by the Senate without a roll call and by the House 208 to 145.

### VETERANS

The trend to liberalize veteran legislation continued with the approval of liberalized pensions to widows, orphans, and dependent parents of World War veterans and of changes in phrasing which would permit some

## FEDERAL ADMINISTRATIVE AGENCIES

1,100 veterans suffering from disabilities caused by venereal disease to be admitted to pension rolls. Between \$7,000,000 and \$8,000,000 of additional governmental outlay will result from these bills.

### W. P. A.

The controversy over relief was not entirely confined to the amount of the appropriation although the President's failure to secure the full additional \$875,000,000 which he asked for in 1939 is accounted one of his major defeats. It was noted above that Congress voted the entire \$1,477,000,000 requested by the President for the W.P.A. during 1940, but as a result of a House investigation of that agency many limitations and re-

strictions obnoxious to the Administration were appended to the appropriation. All W.P.A. projects after Jan. 1, 1940 must be supported at least to the extent of 25 per cent by local sponsors. Federal contribution to non-Federal building projects is limited to a \$52,000 maximum. A "security wage" to be paid only for 130 hours of work a month is to replace the "prevailing wage" provision. After Aug. 31, 1939 all except veterans who had been on the W.P.A. rolls for 18 months were dismissed but were to be re-eligible after 30 days if re-certified. Other lesser restrictions included the necessity of publishing names of all W.P.A. workers receiving more than \$100 a month and the abolition of the Federal Theatre Project.

## FEDERAL ADMINISTRATIVE AGENCIES

By JOHN A. TILLEMA

PROFESSOR, THE GEORGE WASHINGTON UNIVERSITY

### REORGANIZATION

The year 1939 saw a large-scale reorganization resulting from programs transmitted to Congress by the President of the United States in the form of two messages. The first was labelled First Plan on Government Reorganization, which has to do with over-all management. The second was labelled, Second Plan on Government Reorganization, concerning which the President said: "It is concerned with the sole purpose of improving the administrative management of the executive branch by a more logical grouping of existing units and functions and by a further reduction in the number of independent agencies." Both of the President's messages state that the best way to regroup and consolidate agencies is: 1. to reduce expenditures; 2. to increase efficiency; 3. to consolidate agencies according to major purposes; 4. to reduce the number of agencies by consolidating those having similar functions and by abolishing such as were not necessary; and 5. to eliminate overlapping and duplication of effort.

The changes which are indicated hereafter were authorized by Congress in pursuance of the President's recommendations. There were established within the Executive Office of the President the following divisions:

- I. The White House Office.
- II. The Bureau of the Budget, transferred from the Treasury Department.
- III. The National Resources Planning Board.
- IV. The Liaison Office for Personnel Management.
- V. The Office of Government Reports.
- VI. In the event of a national emergency, such office for emergency management as the President shall determine.

### THE WHITE HOUSE

The White House Office is composed of the following principal subdivisions: (a) The Secretaries to the President are created to facilitate and maintain quick and easy communication with the Congress, the individual members of Congress, the heads of executive departments and



## I. AMERICAN POLITICAL HISTORY

agencies, the press, the radio and the general public; (b) The Executive Clerk provides for the orderly handling of documents and correspondence within the White House and organizes and supervises all clerical services and procedure relating thereto; (c) The Administrative Assistants to the President are personal aides to the President but have no authority over anyone in any department or agency, including the Executive Office of the President, other than the personnel assigned to their immediate office.

### BUREAU OF THE BUDGET

The duties of the Bureau of the Budget are, in outline, as follows:

1. To assist the President in the preparation of the Budget and the formulation of the fiscal program of the Government.

2. To supervise and control the administration of the Budget.

3. To conduct research in the development of improved plans of administrative management and to advise the executive departments and agencies of the Government with respect to improved administrative organization and practice.

4. To assist the President to bring about more efficient and economical conduct of government service.

5. To assist the President by clearing and coordinating departmental advice on proposed legislation and by making recommendations as to presidential action on legislative enactments in accordance with past practice.

6. To assist in the consideration and clearance, and, where necessary, in the preparation of proposed executive orders and proclamations.

7. To plan and promote the improvement, development, and coordination of Federal and other statistical services. For this purpose the Central Statistical Board was transferred to the Bureau of the Budget and the Central Statistical Committee abolished and its services transferred to the same agency.

8. To keep the President informed of the progress of activities by agencies of the Government with respect

to work proposed, work actually initiated, and work completed, together with the relative timing of work between the several agencies of the Government, to the end that the work programs of the several agencies of the Government may be coordinated and that the money appropriated may be expended in the most economical manner possible and overlapping and duplication of effort avoided.

### THE NATIONAL RESOURCES PLANNING BOARD

The functions of this Board are outlined as follows: (a) to survey, collect data on, and analyze problems pertaining to national resources, both natural and human, and to recommend to the President and the Congress long-time plans and programs for the wise use and fullest development of such resources; (b) to consult with Federal, regional, state, local and private agencies in developing orderly programs of public works and to list for the President and Congress all proposed public works in the order of their relative importance with respect to (1) the greatest good to the greatest number, (2) the emergency necessities of the nation, and (3) the social, economic and cultural advancement of the people of the United States; (c) to inform the President of the general trend of economic conditions and to recommend measures leading to their improvement or stabilization; and (d) to act as a clearing house and means of coordination for planning activities, linking together various levels and fields of planning.

### THE LIAISON OFFICE FOR PERSONNEL MANAGEMENT

The functions of this office are: (a) to assist the President in the better execution of the duties imposed upon him with respect to personnel management, especially the Civil Service Act of 1883, as amended, and the rules promulgated by the President under the authority of that act; and (b) to assist the President in maintaining closer contact with all agencies dealing with personnel matters in so far as they affect or tend to de-

## FEDERAL ADMINISTRATIVE AGENCIES

termine the personnel management policies of the executive branch of the Government.

### THE OFFICE OF GOVERNMENT REPORTS

Its functions are: (a) to provide a central clearing house through which individual citizens, organizations of citizens, state or local governmental bodies, or agencies of the Federal Government, may transmit inquiries and complaints and receive advice and information; (b) to assist the President in dealing with special problems requiring the clearance of information between the Federal Government and state and local governments and private institutions; (c) to collect and distribute information concerning the purposes and activities of the executive departments and agencies for the use of Congress, administrative officials, and the public; and (d) to keep the President currently informed of opinions, desires, and complaints.

### HOUSING OF EXECUTIVE OFFICES

Space has been assigned in the State, War and Navy Building adjacent to the White House, sufficient to accommodate the Bureau of the Budget with its various divisions, the central offices of the National Resources Planning Board, the Liaison Office for Personnel Management, and the Administrative Assistants to the President. Considerable of the work of the National Resources Planning Board and all of the Office of Government Reports will have to be housed in other quarters until such time as Congress shall decide to provide other housing for the Department of State.

### FEDERAL SECURITY AGENCY

To effectuate the President's program several new agencies were established in the Executive branch of the United States Government during 1939. Each of the new services is headed by an administrator appointed by the President with the advice and consent of the Senate. The salary of each of the new administrators is \$12,000 a year.

The Federal Security Agency is made up of services which were formerly independent or which were transferred from other departments. The Social Security Board and the Civilian Conservation Corps were transferred to this new agency. The Public Health Service was transferred to it from the Department of the Treasury. The National Youth Administration was removed from the Works Progress Administration and placed with the Federal Security Agency. The United States Office of Education was transferred to it from the Department of the Interior. The Radio Service and the United States Film Service which were with the National Emergency Council were transferred to the Security Agency where they will be administered by the Office of Education. The functions of the Secretary of the Treasury with respect to the administration of appropriations for the American Printing House for the Blind are also transferred to the Federal Security Agency. It also contains the United States Employment Service which was transferred to it from the Department of Labor.

### BUREAU OF EMPLOYMENT SECURITY

This new unit is made up of the United States Employment Service transferred from the Department of Labor and the Bureau of Unemployment Compensation of the Social Security Board. The new Bureau is divided into six units: Office of the Director, Employment Service Division, Unemployment Compensation Division, Field Division, Research and Statistics Division, and State Technical Advisory Service.

### FEDERAL WORKS AGENCY

This new agency with a Federal Works Administrator at its head has within it the Works Progress Administration, except the National Youth Administration as indicated above. The name has been slightly changed from Works Progress Administration to Works Projects Administration. At the head of this agency there is an administrator

## I. AMERICAN POLITICAL HISTORY

appointed by the Federal Works Administrator at a salary of \$10,000 a year. The United States Housing Authority was transferred to the Agency from the Department of the Interior. The Bureau of Public Roads, now known as the Public Roads Administration, was transferred to it from the Department of Agriculture. The name of its director has been changed from Chief of the Bureau of Public Roads to Commissioner of Public Roads. He is appointed by the new Federal Works Administrator. The Public Buildings Branch of the Procurement Division of the Treasury Department and Branch of Buildings Management of the National Park Service of the Department of the Interior were also transferred to the Federal Works Agency. A Commissioner of Public Buildings, with a salary of \$9,000 a year, to be appointed by the Federal Works Administrator, is to be in charge of this service. The Federal Emergency Administration of Public Works is to be managed by a Commissioner of Public Works appointed by the Federal Works Administrator at a salary of \$10,000 a year. The Federal Fire Council was transferred to the Federal Works Agency.

### NATIONAL RESOURCES PLANNING BOARD

To this new agency was transferred the Federal Employment Stabilization Office of the Department of Commerce which had been transferred to the Public Works Administration in 1936. The new agency takes over the functions of the National Resources Committee. It is to be composed of five members appointed by the President. Each member is to receive \$50 per day, but the members are not to receive compensation for more than 30 days service in any two consecutive months.

### FEDERAL LOAN AGENCY

To this new agency have been transferred the following: Reconstruction Finance Corporation, Electric Home and Farm Authority, Reconstruction Finance Corporation Mortgage Company, Disaster Loan Corpo-

ration, Federal National Mortgage Association, Federal Home Loan Bank Board, Home Owners' Loan Corporation, Federal Savings and Loan Insurance Corporation, Federal Housing Administration, and the Export and Import Bank of Washington.

### STATE DEPARTMENT

The President's reorganization program has also resulted in the transfer of a considerable number of bureaus from certain of the older departments to others. The Foreign Agricultural Service with its agricultural attaches was transferred from the Department of Agriculture to the State Department. The compilation, publication, and dissemination of information gathered by the agricultural attaches is to remain with the Department of Agriculture. The Foreign Commerce Service, with its commercial attaches and trade commissioners, is transferred to the State Department from the Bureau of Foreign and Domestic Commerce of the Department of Commerce. In this case also, the compilation, publication and dissemination of information remains with the Commerce Department. The Foreign Service Buildings Commission is transferred to State Department. The Commission is to exercise only advisory functions. The Commission which is *ex officio* had been integrated with the Department of State before the reorganization. Its field is to consider, formulate, and approve plans and proposals for the acquisition of sites and buildings "for diplomatic and consular officers." The Committee for Reciprocity Information was transferred to the Department of State.

### WAR DEPARTMENT

The Goethals Memorial Commission was transferred to the War Department. A War Resources Board was created Aug. 9, 1939, by the Assistant Secretary of War and the Assistant Secretary of the Navy as joint chairmen of the Army and Navy Munitions Board for the purpose of "advising the Army and Navy Munitions Board on policies pertaining to the mobilization of the eco-



## FEDERAL ADMINISTRATIVE AGENCIES

conomic resources of the country in the event of a war emergency and perfecting the plans already under way by the agency." In an emergency the War Resources Board is to become an executive agency with broad powers similar to that of the old War Industries Board which is disbanded.

### DEPARTMENT OF THE INTERIOR

A Bituminous Coal Division was established in the Department of the Interior to administer the functions hitherto performed by the National Bituminous Coal Commission. A Consumers Council Division was established in the office of the Solicitor of the Department of the Interior. The Biological Survey was transferred from the Department of Agriculture to the Department of the Interior, together with all the functions of the Secretary of Agriculture relating to the conservation of wild life, game, and migratory birds. The Bureau of Fisheries was transferred from the Department of Commerce to the Department of the Interior, together with the duties of the Secretary of Commerce relating to fur seals, to the supervision of the Pribilof Islands and the Whaling Treaty Act. The Mount Rushmore National Memorial Commission was transferred to the National Park Service of the Department of the Interior. The former functions are divided between the Commission and the National Park Service. The Insular Affairs Bureau of the War Department was abolished and its functions transferred to the Division of Territories and Island Possessions of the Department of the Interior.

### TREASURY DEPARTMENT

The War Finance Corporation was abolished and the duties transferred to the Treasury Department so that it might be liquidated and its affairs wound up not later than Dec. 31, 1939. The Bureau of Lighthouses of the Department of Commerce was transferred to the Coast Guard division of the Treasury Department. The Office of Director-General of Railroads was transferred to the

Treasury Department. This office is in process of liquidation. The Bureau of the Budget, as previously stated, was transferred from the Treasury to the Executive Office of the President.

### DEPARTMENT OF AGRICULTURE

An Agricultural Advisory Council was established by the Secretary of Agriculture at the request of the President "to assist in the formulation of policies to deal with the situation brought about by the outbreak of war in Europe." The Council consists of 28 persons not in the government service. An Agricultural Marketing Service was established in the Department of Agriculture. The new unit is to perform the activities formerly conducted by the Bureau of Agricultural Economics, the preparation of crop and live stock estimates, market research, services and regulatory work connected with farm products and warehousing. The new unit also takes over from the Bureau of Animal Industry the administration of the Packers and Stockyards Act; from the Bureau of Plant Industry, the administration of the Federal Seed Act; and from the Bureau of Dairy Industry the administration of the Dairy Exports Act.

The Bureau of Agricultural Engineering of the Department of Agriculture was discontinued and its activities distributed among other units in the Department as follows: Irrigation and drainage investigations relating to crop production were transferred to the Bureau of Plant Industry; investigations dealing with farm equipment, structures, machinery, operating efficiency, and extension work to the Bureau of Agricultural Chemistry and Engineering; and irrigation and drainage investigations dealing with construction and hydrologic phases of farm irrigation and land drainage, to the Soil Conservation Service.

A new Bureau of Agricultural Chemistry and Engineering was established and the following services were transferred to it: from the former Bureau of Chemistry and

## I. AMERICAN POLITICAL HISTORY

Soils, researches in chemical engineering, fertilizers, food, industrial farm products, naval stores, protein and nutrition and allergen investigations; and from the former Bureau of Agricultural Engineering, investigations dealing with farm equipment, structures, machinery and operating efficiency, and extension work. The new Bureau now has in the course of construction four regional laboratories for research.

The Commodity Credit Corporation was transferred to the Department of Agriculture. The Bureau of Chemistry and Soils was discontinued and its activities distributed. To the Bureau of Agricultural Chemistry and Engineering, as indicated, has gone the irrigation and drainage investigations relating to crop production. Soil surveys, peat investigations and researches relative to plant mineral constituents derived from soils were transferred to the Bureau of Plant Industry. The Rural Electrification Administration was transferred to the Department of Agriculture, as was also the Farm Credit Administration. However, the Secretary of Agriculture has announced that the Farm Credit Administration, including the Federal Farm Mortgage Corporation, will not become an integral part of the Department of Agriculture. Responsibility is to remain with the governor of the Farm Credit Administration who will report to the Secretary of the Department as heretofore. This has been done to reduce the number of officials reporting directly to the President. The Federal Farm Mortgage Corporation was transferred to the Department of Agriculture.

### DEPARTMENT OF JUSTICE

The Federal Prison Industries Corporation, with its board of directors, was transferred to the Department of Justice. The National Training School for Boys was transferred to the Department of Justice and the board of trustees abolished. The institution is located in the District of Columbia and is used to train delinquent boys committed to it by the courts.

An administrative Office of the United States Courts was established. The Office is to have charge of all administration relating to the offices of clerks and administrative personnel of the courts. It is to have the disbursement of appropriations and the preparation of budget estimates. This work was formerly done in the Department of Justice. The director and assistant director are appointed by the United States Supreme Court. All other employees are to be appointed by the Director with the approval of the Supreme Court.

### DEPARTMENT OF COMMERCE

The Inland Waterways Corporation was transferred to the Department of Commerce. The Corporation was formerly under the direction of the Secretary of War rather than the War Department. Such officers of the Foreign Service as the Secretary of State shall make available, may be authorized by the Secretary of Commerce to perform the duties of the China Trade Act Registrar under the direction of the Secretary of Commerce who formerly appointed this Registrar.

The Federal Codification Board was abolished and its functions were transferred to the Division of the Federal Register of the National Archives. The Board was *ex officio* and was established to codify administrative regulations of general application and legal effect.

### MISCELLANEOUS BOARDS AND COMMISSIONS

Numerous miscellaneous boards and commissions were established during the year 1939 under general authority vested in the President.

**Federal Real Estate Board** was created to keep a record of real estate owned by the United States, which is not being utilized, and to make recommendations regarding the disposition of surplus property. The Board consists of representatives of designated agencies. Representatives of other agencies may be added.

**Interdepartmental Committee on Printing and Processing** was created to promulgate regulations for the



## FEDERAL ADMINISTRATIVE AGENCIES

efficient utilization of printing and processing. This Committee also consists of representatives of designated departments. Representatives of other agencies may be added.

**Committee to Investigate and Report Methods for Selecting and Promoting Certain Personnel in Civil Service** was created. It consists of four officers of the Government and three other persons.

**Federal Interdepartmental Safety Council** was created to act as a clearing house for accident prevention and health conservation information. It consists of such officers as are designated by the heads of the departments and independent agencies. The policy of the Council is to be determined by a board consisting of the heads of seven designated departments and such other heads of departments and agencies as the original members shall determine should have representation on the board.

**United States Coronado Exposition Commission.**—A United States Coronado Exposition Commission was created by Congress to represent the United States in connection with the exposition to commemorate the 400th anniversary of the expedition of Francisco Vasquez de Coronado. The Commission consists of the Vice President, the Speaker of the House of Representatives, the Secretary of the Interior, and the Secretary of Commerce. An appropriation of \$250,000 was authorized to carry out the purpose.

**Virginia (Merrimac) Monitor Commission.**—This Commission was created by Congress to report on a suitable memorial to commemorate the battle between the *Merrimac* and the *Monitor*. It consists of three Senators appointed by the Vice President and three representatives appointed by the Speaker of the House.

**Office of Commissioner to Determine the Validity and Amount of**

**Claims Against the Union of Soviet Socialist Republics.**—This Office was created by Congress with a commissioner appointed by the President. He is to receive a salary of \$9,000 a year. All the subordinate personnel are appointed by the Secretary of State without regard to the Civil Service laws or the Classification Act of 1923. The work is to be completed within two years from the date when the commissioner qualifies. An appropriation of \$25,000 was authorized.

**Joint Committee to Investigate the Adequacy and Use of Phosphate Resources of the United States.**—The work of this Committee has been broadened so as to include potash and related minerals.

**Gallipolis Sesquicentennial Commission.**—This Commission was created by Congress to cooperate in the sesquicentennial celebration of the settlement of Gallipolis, O. The Commission is composed of seven officers and citizens of Gallia county and Gallipolis. They are to serve without compensation. An appropriation of \$10,000 is authorized for the purpose.

**Franklin D. Roosevelt Library.**—This was authorized by Congress as a branch of the National Archives establishment. The land, building, and initial collection are to be donated to the United States, but the "faith of the United States is pledged that the United States will provide such funds as may be necessary for the upkeep of said library and the administrative expenses and costs of operation thereof." The Board of Trustees of the Library consists of the Secretary of the Treasury, the Archivist of the United States, and five members appointed by the President for life. Membership of the Board is not to be an office of the United States. Members are to receive no compensation but expenses are allowed.

## THE SUPREME COURT AND CONSTITUTIONAL LAW

BY NOEL T. DOWLING

PROFESSOR, SCHOOL OF LAW, COLUMBIA UNIVERSITY

## COMPOSITION OF THE COURT

The year 1939 may be marked as momentous on the calendar of the Supreme Court of the United States, not alone for what happened to the Court but also for what happened to constitutional law at its hands. In the first place, the Court received two new accessions to its membership, and still another vacancy was created by the death of Mr. Justice Butler as the year rolled to an end. Second, Congress gave the Court a new and clarified specification of its place in the general governmental scheme. Third, the Court's decisions and opinions brought forth some new views concerning the Constitution and the judicial function thereunder.

On January 5, 1939 the President nominated Felix Frankfurter, Byrne Professor of Administrative Law at Harvard Law School, as Associate Justice to succeed the late Mr. Justice Cardozo. He was confirmed with little delay and took his seat on the bench Jan. 30. Shortly thereafter Mr. Justice Brandeis suddenly retired from active service, and on March 20 the President nominated William O. Douglas, Sterling Professor of Law at Yale University on leave as Chairman of the Securities and Exchange Commission, to succeed him. Again confirmation followed promptly, and he took his seat on the bench April 17. Together they brought to four the appointments by President Roosevelt since the agitation over the Court in 1937, Mr. Justice Black having taken his seat in October of that year and Mr. Justice Reed in January, 1938.<sup>1</sup>

Whatever may be said for or against the tradition in favor of a nation-wide distribution of membership, the distribution was not enhanced by

the 1939 appointments. The geographical center of the Court did not shift in any substantial sense. If anything, it moved slightly eastward, appointees from Massachusetts and Connecticut succeeding former Justices from New York and Massachusetts. If the two prior appointments are included, Mr. Justice Black from Alabama in place of Mr. Justice Van Devanter of Wyoming and Mr. Justice Reed from Kentucky in place of Mr. Justice Sutherland of Utah, the center has shifted decidedly towards the eastern seaboard. It is a noticeable fact, on the significance of which opinions may differ, that no member of the Court today comes from west of the Mississippi.

Of higher significance is the further noticeable fact that not one of the four appointed by Mr. Roosevelt came directly from another bench or, with one exception and that with regard to service on a minor court, had had any judicial experience. This fact, let it be said at once, militates against neither their caliber nor fitness. Mr. Justice Brandeis and Mr. Justice Stone are shining examples of those who had never seen service on the bench. Mr. Justice Holmes and Mr. Justice Cardozo are shining examples of those who had. It is no disparagement of the former to say that the latter, who came to their posts in Washington directly from the highest benches of their respective states, possessed readier equipment for their new tasks and were more speedily and with nearer unanimity accepted by the country as worthy of places on that tribunal.

The significance of the matter lies in its bearing on the judicial system as a whole. It tends to remove an incentive for high accomplishment in the lower range of judicial service, and it runs counter to the encouragement and development of careers in that service. A seat on the Supreme

<sup>1</sup> On January 4, 1940, the President nominated Frank Murphy, of Michigan, Attorney General of the United States, to succeed Mr. Justice Butler.

## THE SUPREME COURT AND CONSTITUTIONAL LAW

Court appears to be a far-off goal indeed for other Federal and state judges; when the day for reconstructing the Court arrived not one of the newly chosen members was called from among them.

### THE COURT IN THE GOVERNMENTAL SYSTEM

Clarification of the Court's place and that of the judiciary generally in the governmental scheme was brought about by the Act of Congress approved Aug. 7, 1939, to take effect 90 days thereafter. As its title indicates, the purpose of the act is to "provide for the administration of the United States courts." It establishes the Administrative Office of the United States Courts, at the head of which is a director (with an assistant director) appointed by, and holding office at the pleasure of, the Supreme Court.

A wide range of administrative matters relating to the offices of the clerks and other clerical and administrative personnel of the courts is committed to the charge of the director, under the supervision and direction of the Conference of Senior Circuit Judges. More specifically, his duties include the providing of accommodations for the use of the courts; purchase, exchange, transfer, and distribution of equipment and supplies; examination and audit of vouchers and accounts; disbursement of the moneys appropriated for the maintenance, support, and operation of the courts; and such other duties as may be assigned to him by the Supreme Court and the Conference of the Senior Circuit Judges. He must prepare and submit annually to the Bureau of the Budget estimates of the expenditures and appropriations necessary for the maintenance and operation of the courts. Such estimates are subject to approval by judges of the several courts affected and when finally completed and submitted, they must, as the act expressly provides, "be included in the Budget without revision (but subject to the recommendations of the Bureau of the Budget thereon) . . ."

Another phase of the director's activities comes closer to the actual functioning of the courts. He has charge of "examining the state of the dockets of the various courts and securing information as to their needs for assistance, if any, and the preparation of statistical data and reports of the business transacted by the courts, and promptly transmitting the information so obtained quarterly to the senior circuit judges of the respective circuits, to the end that proper action may be taken with respect thereto. . . ." The statistical data, in addition to being submitted quarterly to the circuit judges, must be included in the annual report (which becomes a public document) of the Director, one copy to be filed with Congress and one with the Attorney General.

The act goes further than prescribing the duties of the director; it touches the courts themselves. The circuit judges in each circuit are required to meet as a council at least twice a year to consider the information transmitted quarterly by the director and to take such action thereon as may be necessary. In addition, a conference must be held in each circuit every year, participated in by the circuit and district judges in the circuit and, under rules prescribed by the circuit courts of appeals, by members of the bar. The purpose of the conference is to consider the state of the business of the courts and to advise ways and means of improving the administration of justice within the circuit.

This act is a notable step in the organization of the judicial branch. For the first time in the history of the United States that branch has an agency and personnel, separate and apart from the executive and legislative departments and under its own full control, whose duties are concerned wholly with the maintenance, support, and operation of the courts.

In November the Supreme Court appointed Henry P. Chandler of the Illinois bar as director and Elmore Whitehurst of the Texas bar as assistant director.



## I. AMERICAN POLITICAL HISTORY

### THE COURT AND THE CONSTITUTION

Whatever might have been happening to the Court's geographical center, a shift was in progress for the center of (shall we say) constitutional equilibrium. The cases of 1939, especially when looked at in the light of those immediately preceding, leave little doubt about that. Governmental actions were held constitutional which probably would not have been deemed so in another day. And the Court refused to pass on questions which probably would have been accepted as grist for its mill in earlier times.

The outstanding feature of the period is the progressive curtailment, in the large area where economic interests are involved, of the judicial function in passing on constitutional questions. In the narrower field of personal freedom, especially speech and press, a contrary tendency has become emphatic, as will later appear. Whether a less restrictive constitutional doctrine concerning the validity of challenged action is applied on the merits or jurisdiction of the case is declined on procedural or other grounds, the result tends to be the same, namely, no interference by the Supreme Court. Both lines are illustrated by the cases of 1939. What follows in this review is not an attempt to recount the work of the Court for the year but rather to single out and comment upon those cases which, to the writer, seem particularly significant from the foregoing point of view.

On the national front and especially with regard to Congressional measures, it is tolerably clear that, again with exceptions for personal freedom, the Supreme Court is approaching a position not unlike that occupied by the English courts with respect to acts of Parliament. That position, summarily stated, is that a legislative enactment is law and must be accepted as such by the courts, the latter's function being restricted to questions of construction and application.

For some purposes and to some extent, we are back to the days of

Marshall, or before. He it was, as will be remembered, who in 1803 in the famous case about the "midnight judges" asserted the power of the Supreme Court to hold an Act of Congress unconstitutional. But it was not until the *Dred Scott* case in 1857, by which time Marshall had long since appeared at a Higher Bar and Taney had taken his place on this terrestrial Bench, that the Court exercised that power against an Act of Congress affecting private property. Except for the case in 1803, then, which invalidated the Congressional attempt to enlarge the original jurisdiction of the Supreme Court, Marshall and his colleagues gave no judgment denying the constitutionality of an Act of Congress. He and they did overturn several state laws. In fact, a large part of Marshall's constitutional labors centered in expanding the powers of Congress and restricting the powers of the states wherever the exercise of the latter might impede or embarrass national prerogatives. It is not surprising, then, to find the Court today invoking Marshall's doctrines for the further expansion of centralized power in our Federal system; nor need it come as a shock to discover the Court occasionally disowning or reinterpreting ideas of his which stand in the way of present national purposes and plans.

### INTERGOVERNMENTAL TAX IMMUNITIES

Recent pronouncements on the subject of intergovernmental tax immunities amply illustrate the matter. Those immunities, based on Marshall's doctrine that a state can not tax the operations of a Federal agency and the later reciprocal that Congress is unable to tax state agencies, has been the point of much discussion these past few years. Loud complaints have been heard about the owners of Federal, state, and municipal securities escaping taxation on the interest received therefrom, and the holders of public jobs drawing their salaries free from the burden of taxes. No longer need those complaints be heard, at least as far as the

salary aspect of the difficulty is concerned.

Decisions handed down in 1939 virtually completed the task of removing the last vestige of immunity which could be traced to the Constitution. The principal decision came in *Graves v. New York ex rel O'Keefe*, popularly known as the *O'Keefe* case (decided March 27), in which the Court sustained the imposition by the State of New York of a non-discriminatory income tax on the salary of an employee of the Home Owners' Loan Corporation, a Federal agency. The only possible basis for implying a constitutional immunity, said Mr. Justice Stone for the Court, "is that the economic burden of the tax is in some way passed on so as to impose a burden on the national government tantamount to an interference by one government with the other in the performance of its functions." No such burden was found in the New York tax. Indeed and as if by way of generalization, he added: "So much of the burden of a non-discriminatory general tax upon the incomes of employees of a government, state or national, as may be passed on economically to that government, through the effect of the tax on the price level of labor or materials, is but the normal incident of the organization within the same territory of two governments, each possessing the taxing power."

The result was summed up and categorically stated by Mr. Justice Black in *Fairbanks v. United States* (decided the same day as the *O'Keefe* case): "Salaries of employees or officials of the Federal Government or its instrumentalities are no longer immune, under the Federal Constitution, from taxation by the States." And the amenability of salaries of Federal officials is further shown by the decision in *O'Malley v. Woodruff* (May 22), holding a Federal tax on the salary of a Federal judge appointed after the enactment of the law not to be such a diminution of salary as comes within the terms of the constitutional prohibition.

*Pittman v. Home Owners' Loan Corporation* (Nov. 6) seems to push

the demolition of constitutional immunity one step further. Here the Court held invalid a Maryland statute imposing a tax upon the recordation of mortgages offered for record by the Corporation. The significant feature of this case is that the Court rested its decision on the ground that, the creation of the Corporation being a constitutional exercise of national power, Congress could, as by statute it did, immunize the Corporation's operations from the state requirement. That is to say, the Court appears to consider the immunity, if it exists at all, as emanating, not from a rule of the Constitution, but from the will of Congress. Such was the suggestion in a notable case of 1938 (*Helvering v. Gerhardt*, 304 U.S. 405), and it is all but the law now.

Marshall's immunity doctrine had a long, if not happy, life. It was born in 1819 when the Court held unconstitutional a statute of Maryland levying a tax on the operations of the Bank of the United States. That statute, a product of the bitter controversy over the power of the National Government to establish and maintain a bank of its own in competition with state banks, constituted Maryland's contribution to an effort on the part of the states to cripple, if not destroy, the National Bank. To admit that the bank could be taxed by a state, said Marshall, was to concede that it existed at the mercy of the state; for, in the words of his most famous dictum, "the power to tax involves the power to destroy."

But that dictum is no more. Mr. Justice Stone sent it on its way to the judicial graveyard when he wrote the opinion in the *O'Keefe* case, and Mr. Justice Frankfurter tagged it with a label that may prove to be its epitaph. Here lies, not a profound constitutional truth, only a "seductive cliché!" Mr. Justice Butler and Mr. Justice McReynolds mourned its demise, and dissented. But the dictum was gone.

Not so, however, another dictum in the same case. When the argument was urged upon Marshall in the original litigation that, if the states



## I. AMERICAN POLITICAL HISTORY

could not tax the national agencies, neither could the nation tax a state agency, he answered by saying that the two cases do not stand on the same reason. In the case of national taxation, he said, it is the whole acting on the parts, and, each part being represented in Congress, it is merely a case of the states taxing themselves; they control the action. But when a state taxes a national agency, it is a part acting on the whole. The whole is not represented and exercises no check; it may thus be imperilled by the action of the state.

That is important doctrine. Its import may not be caught at once, but it may furnish a partial explanation of the Court's position on constitutional questions respecting Acts of Congress to which we have already referred. A distinction must be noted in the kinds of objections which the Court may have to decide in connection with such an act. On one side the objection may be that the act invades the reserved powers of the states, on the other that it violates the rights of individuals. In the former it is said to run counter to the Federal scheme of relationships between the nation and the states; in the latter, counter to the Bill of Rights or other provisions for individual protection. Marshall's doctrine concerns the former. It has no bearing whatsoever on the latter. And to the former, it may be observed, the early controversial cases of the New Deal belonged. The Agricultural Adjustment Act went down because it was held to invade the reserved powers of the states; so did the Guffey Coal Conservation Act; so did the Railroad Pension Act. They fell, all of them, before the objection that the National Government was overreaching and superseding the states.

It is precisely there that Marshall's doctrine would come into play. On its underlying theory the states would not be encroached upon in any constitutional sense, for the reason that they, as represented in Congress and more especially with an equal voice in the Senate, would be acting together on themselves. Normal po-

litical pressure, so the theory runs, could be counted on to provide protection inside Congress; no necessity would exist for external intervention by the courts. The result would be that, in cases involving expansion of the power of Congress at the expense of the states, the Court would have little part in the controversy. That is just another way of saying that, from the viewpoint of the people in the states and with regard to national action affecting them, Congress is being emancipated from judicial checks.

The Court, it must be said, has not yet arrived at that destination. It may never do so. If it did, it could of course retrace its steps. But indications are not wanting that that is the direction in which it is moving. Not the least is the fact that Marshall's doctrine to that end was resurrected and amplified by Mr. Justice Stone in the *Gerhardt* case in 1938, the case which paved the way and furnished the essential basis for the *O'Keefe* decision in 1939. Nor is it unworthy of note that the very case (*Collector v. Day*, 11 Wall. 113), which rejected this doctrine of Marshall's 70 years ago, was itself expressly overruled in the *O'Keefe* case.

### STATE JURISDICTION TO TAX

In other areas also the states obtained, if not a wider reach for their taxing powers, at least a more stable foundation for their exercise. *Curry v. McCandless* (May 29) revealed a sharp struggle in the Court on the question whether intangibles may be taxed in more than one state, with state powers coming out on top. It was held that both Alabama and Tennessee could constitutionally impose death taxes upon the transfer of an interest in intangibles held in trust by an Alabama trustee but passing under the will of a beneficiary decedent domiciled in Tennessee. Mr. Justice Stone delivered the prevailing opinion, in which Justices Black, Reed, Frankfurter, and Douglas concurred; Mr. Justice Butler delivered a dissenting opinion concurred in by the Chief Justice and Justices McReynolds and Roberts.

At the outset Mr. Justice Stone

noted the doctrine, "of recent origin," that the Fourteenth Amendment "precludes the taxation of any interest in the same intangible in more than one State," referred to its limited application by the Court in three cases (in one of which he had concurred specially and in the other two had dissented), and concluded that "neither reason nor authority" required its acceptance in the present circumstances.

After discussing the theory and basis of taxation of tangibles, land, and chattels, in the state where they are physically located, he turned to a consideration of intangibles.

"Very different considerations, both theoretical and practical, apply to the taxation of intangibles, that is, rights which are not related to physical things. Such rights are but relationships between persons, natural or corporate, which the law recognizes by attaching to them certain sanctions enforceable in courts. The power of government over them and the protection which it gives them cannot be exerted through control of a physical thing. They can be made effective only through control over and protection afforded to those persons whose relationships are the origin of the rights. . . . Obviously, as sources of actual or potential wealth—which is an appropriate measure of any tax imposed on ownership or its exercise—they cannot be dissociated from the persons from whose relationships they are derived."

As to the power of the domiciliary state he pointed out that from the beginning of our constitutional system "control over the person at the place of his domicile and his duty there, common to all citizens, to contribute to the support of government have been deemed to afford an adequate constitutional basis for imposing on him a tax on the use and enjoyment of rights in intangibles measured by their value." Nor was it deemed necessary by Mr. Justice Stone to attribute to intangibles a "physical presence within its territory, as though they were chattels, in order to support the tax."

As to the power of other states, he added: "But when the taxpayer ex-

tends his activities with respect to his intangibles, so as to avail himself of the protection and benefit of the laws of another state, in such a way as to bring his person or property within the reach of the tax gatherer there, the reason for a single place of taxation no longer obtains, and the rule is not even a workable substitute for the reasons which may exist in any particular case to support the constitutional power of each state concerned to tax. . . .

"If we enjoyed the freedom of the framers it is possible that we might, in the light of experience, devise a more equitable system of taxation than that which they gave us. But we are convinced that that end cannot be attained by the device of ascribing to intangibles in every case a locus for taxation in a single state despite the multiple legal interests to which they may give rise and despite the control over them or their transmission by any other state and its legitimate interest in taxing the one or the other."

For the minority Mr. Justice Butler insisted that Tennessee could not tax since there was no basis on the facts for the application of the fiction *mobilia sequuntur personam* and that the intangibles in question had no situs in that state.

Further with reference to the basis upon which Alabama could tax he urged that "intangibles, like tangibles, may be so held and used outside the State of the domicile of the owner as to become taxable in the State where kept."

"Subject to the laws of Alabama, all transactions in which the trust properties were capable of being used were identified with that State. The securities, held there not only for safekeeping but as well for collection of income and principal, and subject to sale and reinvestment of proceeds, could not be more completely localized anywhere."

The commerce clause as a barrier to state taxation received additional consideration, state power being upheld as to use taxes, and turned down as to gross receipts taxes. *Southern*

*Pacific Co. v. Gallagher* (Jan. 30) brought up a new phase of the use tax problem from California. The law of that state, complementary to the sales tax law, imposes an excise, at the same rate as the sales tax, for storage, use, or other consumption in the state. And the tax was sustained as imposed upon tangible personal property, bought outside the state by an interstate railroad, and installed on importation, or kept available for use, as a part of its transportation facilities.

The significance of the case lies in the astuteness with which the Court finds "taxable events" within the state and separates them from the interstate commerce transaction. The Court said that two principles exist, illustrated by two lines of cases, one which "forbids a tax upon commerce or consumption in commerce," and the other "permits state taxation of events preliminary to interstate commerce."

"In the present case some of the articles were ordered out of the state under specification suitable only for utilization in the transportation facilities and installed immediately on arrival at the California destination. If articles so handled are deemed to have reached the end of their interstate transit upon 'use or storage,' no further inquiry is necessary as to the rest of the articles which are subjected to a retention, by comparison, farther removed from interstate commerce. We think there was a taxable moment when the former had reached the end of their interstate transportation and had not begun to be consumed in interstate operation. At that moment, the tax on storage and use—retention and exercise of a right of ownership, respectively—was effective. The interstate movement was complete. The interstate consumption had not begun. . . . The prohibited burden upon commerce between the states is created by state interference with that commerce, a matter distinct from the expense of doing business. A discrimination against it, or a tax on its operations as such, is an interference. A tax on property or upon a taxable event in

the state, apart from operation, does not interfere."

All of which, in the somewhat optimistic estimate of the majority, constitutes "a practical adjustment of the right of the state to revenue from the instrumentalities of commerce and the obligation of the state to leave the regulation of interstate and foreign commerce to the Congress."

Mr. Justice Black concurred in the result; Mr. Justice Roberts took no part in the consideration or decision of the case; and Mr. Justice Butler, Mr. Justice McReynolds concurring, said in dissent: "The facts stated in the opinion just announced leave nothing of substance to support its conclusion that the California tax is not upon the operation—maintenance and use—of appellant's railroad for interstate transportation. Discussion can neither obscure nor more plainly disclose the truth that the tax in question directly burdens commerce among the States. Concededly, that is repugnant to the commerce clause as, from the beginning, it has been construed by this Court."

*Gwin, White & Prince v. Henneford* (Jan. 3) revived and extended the discussion, which in some respects has taken on the appearance of a running debate between Mr. Justice Stone and Mr. Justice Black, concerning the power of a state to lay and collect taxes for the privilege of engaging in business when the tax is measured by gross receipts from interstate and foreign commerce. A Washington tax of that character was held invalid in this case.

The majority of the Court, speaking through Mr. Justice Stone, noted that the tax, though nominally imposed upon appellant's activities in the state, "by the very method of its measurement reaches the entire interstate commerce service rendered both within and without the State and burdens the commerce in direct proportion to its volume." Such a tax, when not apportioned to the activities carried on within the state, burdens the commerce "in the same manner and to the same extent as if the exaction were for the privilege of engaging in interstate commerce and would, if



sustained, expose it to multiple tax burdens." Then, dealing specifically with the tax involved in the case, he continued: "Here the tax, measured by the entire volume of the interstate commerce in which appellant participates, is not apportioned to its activities within the state. If Washington is free to exact such a tax, other states to which the commerce extends may, with equal right, lay a tax similarly measured for the privilege of conducting within their respective territorial limits the activities there which contribute to the service. The present tax, though nominally local, thus in its practical operation discriminates against interstate commerce, since it imposes upon it, merely because interstate commerce is being done, the risk of a multiple burden to which local commerce is not exposed. . . . Such a multiplication of state taxes, each measured by the volume of the commerce, would reestablish the barriers to interstate trade which it was the object of the commerce clause to remove. Unlawfulness of the burden depends upon its nature measured in terms of its capacity to obstruct interstate commerce, and not on the contingency that some other state may first have subjected the commerce to a like burden."

A noteworthy feature of the opinion is that Mr. Justice Stone called attention to the possibility that the disability of the state may be removed by Congressional action. Thus he suggested that the commerce clause, "in the absence of Congressional action," precludes state taxation which discriminates against interstate commerce, and he thought it not without significance that the long line of decisions invalidating taxes measured by gross receipts had not been disturbed by Congressional action, either to alter or abolish the rules as judicially established.

Mr. Justice Butler, joined by Mr. Justice McReynolds, concurred in the conclusion that the tax was invalid.

Mr. Justice Black dissented. He renewed his objections from earlier cases against overturning state laws on the ground of "conjectured" multiple taxation. This he regarded as

an intrusion into the legislative field committed to the Congress by the commerce clause. "No other State in which appellant's agents perform sales services has imposed a similar tax upon appellant measured by any part of its gross receipts. Such an eventuality—if it should occur—is given the title of 'multiple taxation.' And such conjectured 'multiple taxation' would be—it is said—a violation of that Clause of the Constitution which gives Congress power to regulate commerce among the States. Thus far, Congress has not deemed it necessary to prohibit the States from levying taxes measured by gross receipts from interstate commerce. While there are strong logical grounds upon which this Court has based its invalidation of State laws actually imposing unjust, unfair, and discriminatory burdens against interstate commerce as such, the same grounds do not support a judicial regulation designed to protect commerce from validly enacted non-discriminatory State taxes which do not—but may sometime—prove burdensome. . . .

"So here, if national regulation to prevent 'multiple taxation' is within the constitutional power of this Court, it would seem to be time enough to consider it when appellant or some other taxpayer is actually subject to 'multiple taxation.'"

#### NATIONAL QUOTAS AND PRICES

In the commerce field two far-reaching decisions were handed down. To describe them generally before examining them specifically, *Mulford v. Smith* (April 17) sustained the power of Congress to fix interstate marketing quotas, and *United States v. Rock Royal Co-op* (June 5) upheld the national power to fix minimum prices for commodities moving in interstate commerce.

The *Mulford* case had to do with quotas on tobacco under the Agricultural Adjustment Act of 1938. That act, after a series of findings concerning the basic character of the industry, the national character of the market for the commodity, and the necessity of quotas to prevent excessive dumping and to promote and obtain



## I. AMERICAN POLITICAL HISTORY

an orderly flow of tobacco in interstate and foreign commerce, authorizes the Secretary of Agriculture, on condition that he finds the supply above a certain reserve level and subject to the approval of two-thirds of the producers, to establish a national marketing quota. This quota is apportioned among the several states, and in turn among the producers in the states. Enforcement is secured by the imposition of a penalty of 50 per cent of the price of any excess which may be marketed through a warehouseman to be withheld from the amounts paid to the producer. In this case certain producers sought to enjoin the warehousemen from deducting the penalties, but all constitutional objections were rejected and the act sustained.

Replying to the principal contention that fixing quotas constituted in substance control of production, the Court, per Mr. Justice Roberts, said: "The statute does not purport to control production. It sets no limit upon the acreage which may be planted or produced and imposes no penalty for the planting and producing of tobacco in excess of the marketing quota. It purports to be solely a regulation of interstate commerce, which it reaches and affects at the throat where tobacco enters the stream of commerce, the marketing warehouse."

Mr. Justice Roberts referred to *Currin v. Wallace* (Jan. 30), in which the Tobacco Inspection Act of 1935 was sustained and in which it was declared that sales of tobacco by growers through warehousemen to purchasers for removal outside the state constitutes interstate commerce, and then wrote this sweeping language: "... Any rule, such as that embodied in the Act, which is intended to foster, protect and conserve that commerce, or to prevent the flow of commerce from working harm to the people of the nation, is within the competence of Congress. Within these limits the exercise of the power, the grant being unlimited in its terms, may lawfully extend to the absolute prohibition of such commerce, and *a fortiori* to limitation of the amount of a given commodity which may be

transported in such commerce. The motive of Congress in exerting the power is irrelevant to the validity of the legislation."

The ruling involved in that language was to Mr. Justice Butler (in an opinion concurred in by Mr. Justice McReynolds) "contrary alike to reason and precedent." For, as he added: "Heretofore, in cases involving the power of Congress to forbid or condition transportation in interstate commerce, this Court has been careful to determine whether, in view of the nature and character of the subject, the measure could be sustained as an appropriate regulation of commerce. If Congress had the absolute power now attributed to it by the decision just announced, the opinions in these cases were unnecessary and utterly beside the mark." Moreover, he thought that mere inspection of the statute and the Secretary's regulations unmistakably disclosed the purpose to raise prices by lessening production. "Whatever may be its declared policy or appearance, the enactment operates to control quantity raised by each farmer. It is wholly fallacious to say that the penalty is not imposed upon production. The farmer raises tobacco only for sale. Punishment for selling is the exact equivalent of punishment for raising the tobacco."

The *Rock Royal Co-op.* case is also concerned with orderly marketing of an agricultural commodity, this time, milk. It sustained an order of the Secretary of Agriculture, under the Agricultural Marketing Act of 1937, which, *inter alia*, fixed minimum prices for the purchase of milk "in the current of interstate or foreign commerce, or which directly burdens, obstructs, or affects" such commerce. The order was designed to cover the market as a whole in a given area, the inter- and intra-state currents being found to be "inextricably intermingled." At all events, "where local and foreign milk are drawn into a general plan for protecting the interstate commerce in the commodity from the interferences, burdens and obstructions, arising from excessive surplus and the social and sanitary

## THE SUPREME COURT AND CONSTITUTIONAL LAW

evils of low values, the power of the Congress extends also to local sales." And this power Mr. Justice Reed, for the majority, describes with two words which seem to leave room for no possible additions: "complete and perfect." Even so he did not quite satisfy Mr. Justice Black and Mr. Justice Douglas. They concurred in the judgment and in the opinion "except insofar as the opinion appears to imply that power of Congress to enact the marketing law depends upon the use and nature of milk." They did not believe that it was necessary in the case to indicate that there is such a constitutional limitation on the power of Congress to regulate interstate commerce. Mr. Justice McReynolds and Mr. Justice Butler dissented. Mr. Justice Roberts and the Chief Justice dissented on grounds stated in an opinion by the former.

So, with quotas and prices as regulatory devices at its command, Congress obtains new equipment with which to exert a wider influence on the marketing system of the nation. The commerce power goes marching on.

### TENNESSEE VALLEY AUTHORITY

On another line of national endeavor the Court appears to have turned on the green light. In *Tennessee Electric Power Co. v. Tennessee Valley Authority* (Jan. 30), a group of utilities sought, with signal failure, to enlist the aid of the courts to check the expanded, and expanding, power operations of TVA. A three-judge Federal Court in Tennessee dismissed the bill after a hearing on the merits. On appeal to the Supreme Court a series of questions was presented touching the constitutionality of various phases of the Authority's activities. But the Court refused to "consider or decide the issues thus mooted" for the reason that "in no aspect of the case have the appellants standing to maintain the suit." So the decree below dismissing the suit was affirmed.

The "pith of the complaint," said Mr. Justice Roberts for the majority (Justices Butler and McReynolds dis-

senting and Mr. Justice Reed not participating), was the Authority's competition. This the appellants sought to stigmatize as illegal by reliance on their franchises which they claimed were protected from injury or destruction by competition. But the vice of that position, replied the Court, "is that neither their charters nor their local franchises involve the grant of a monopoly nor render competition illegal." Nor could they make any headway with the contention that, irrespective of their franchise rights, they could "challenge the constitutionality of the statutory grant of power the exercise of which results in competition." Of no avail also was the contention that national competition constituted a means of regulating local business.

In substance the decision insulates the Authority from attack on constitutional grounds by private power companies. "Legislation may protect from the consequences of competition, but the Constitution does not." This was said some years ago with regard to states in competition with private industry; it now seems equally true of the National Government as well. The technique here, it will be observed, was quite different from that in the tax immunity and commerce clause cases. There the Court decided that it was constitutional for the tax to be imposed or for commerce to be regulated. Here the Court said it would not decide one way or another whether TVA was engaged in a constitutional enterprise, for the simple reason that the parties to the litigation could not raise the question.

Two possible weaknesses in the insulation were indicated in the opinion. First, if it were shown (as it was not in the case) that the Authority had indulged in "coercion, duress, fraud, or misrepresentation," or had "acted with any malicious or malevolent motive," or had "conspired with municipalities or other purchasers of power"; and, second, if objections were raised by the state itself. But the opposite of this last appeared: some of the state laws would permit the challenged activities.

## I. AMERICAN POLITICAL HISTORY

### THE AMENDING PROCESS

Judicial abnegation rose to the highest point when the Court bestowed its consideration on the amending process and the part committed to Congress in that process. In *Coleman v. Miller* (June 5) it came to light that, what hitherto had been assumed, if not actually decided, to be judicial questions for the courts, are in truth political questions for Congress.

The so-called Child Labor Amendment, submitted by Congress in 1924 and containing no time limit on ratification, had been floating around for nearly 15 years, ratified by some states, rejected by others. Two questions had arisen: Was a State bound by a prior "No" so that it could not change to "Yes"? Was the amendment "dead" by the passage of time (the Court previously had said a proposed amendment lives for only a "reasonable" time)? Kansas and Kentucky, included among the states previously voting in the negative, turned around and voted to ratify. Test suits were begun at once and brought to the Supreme Court with the hope that authoritative answers might be obtained to both questions. The Kansas court had held the ratification valid; the Kentucky court held contra.

On the question of prior rejection the Court, per Mr. Chief Justice Hughes for the majority, referred to the Congressional resolution declaring the Fourteenth Amendment to have been adopted, the list of ratifying states including some which had previously voted to reject it as well as some which had attempted to withdraw their prior acceptance, and to the proclamation of the Secretary of State based on that resolution and embracing the same states.

"Thus the political departments of the Government dealt with the effect both of previous rejection and of attempted withdrawal and determined that both were ineffectual in the presence of an actual ratification. . . . This decision by the political departments of the Government as to the validity of the adoption of the Fourteenth Amendment has been accepted.

"We think that in accordance with

this historic precedent the question of the efficacy of ratifications by state legislatures, in the light of previous rejection or attempted withdrawal, should be regarded as a political question pertaining to the political departments, with the ultimate authority in the Congress in the exercise of its control over the promulgation of the adoption of the amendment."

As to the time element, which was thought to raise the more serious question, the Court took pains to show that an earlier case, *Dillon v. Gloss*, 256 U.S. 368 (1921), in which the declaration had been made concerning the necessity of ratification within a reasonable time, sustained the power of Congress to fix the period of ratification but did not involve the question of the Court, in the absence of Congressional action, taking upon itself the responsibility of deciding what constitutes a reasonable time. Such a decision would involve "an appraisal of a great variety of relevant conditions, political, social and economic, which can hardly be said to be within the appropriate range of evidence receivable in a court of justice and as to which it would be an extravagant extension of judicial authority to assert judicial notice as the basis of deciding a controversy with respect to the validity of an amendment actually ratified." These conditions, the Court suggests, are appropriate for the consideration of the political departments of the Government, and the questions they involve "are essentially political and not justiciable."

"Our decision that the Congress has the power under Article V to fix a reasonable limit of time for ratification in proposing an amendment proceeds upon the assumption that the question, what is a reasonable time, lies within the congressional province. If it be deemed that such a question is an open one when the limit has not been fixed in advance, we think that it should also be regarded as an open one for the consideration of the Congress when, in the presence of certified ratifications by three-fourths of the States, the time arrives for the promulgation of the adoption of the



amendment. The decision by the Congress, in its control of the action of the Secretary of State, of the question whether the amendment had been adopted within a reasonable time would not be subject to review by the courts."

Mr. Justice Black, in an opinion concurred in by Justices Roberts, Frankfurter and Douglas, concurred in the result reached by the majority but thought that the majority opinion should have been even more sweeping as to the non-justiciable nature of the question. "Congress, possessing exclusive power over the amending process, cannot be bound by and is under no duty to accept the pronouncements upon that exclusive power by this Court or by the Kansas courts. Neither State nor Federal courts can review that power. Therefore, any judicial expression amounting to more than mere acknowledgment of exclusive Congressional power over the political process of amendment is a mere admonition to the Congress in the nature of an advisory opinion, given wholly without constitutional authority."

Mr. Justice Frankfurter, joined by Justices Roberts, Black, and Douglas, was of opinion that the parties had no standing to sue and that the cause should be dismissed. Mr. Justice Butler, joined by Mr. Justice McReynolds, helped to make a majority on the point that the parties had standing to sue but dissented on the merits. He thought that on the reasoning of the *Dillon* case discussed by the Chief Justice "more than a reasonable time had elapsed."

The upshot of this elaborate treatment of the subject by the several members of the Court was that the Kansas judgment sustaining ratification was affirmed. But the Kentucky judgment did not fare so well. A majority was of the opinion that "after the Governor of Kentucky had forwarded the certification of the ratification of the amendment to the Secretary of State of the United States there was no longer a controversy susceptible of judicial determination." So that case was dismissed.

### INTOXICATING LIQUORS

When we turn to the cases concerning the regulatory powers of the states, we find two notable decisions (or groups of decisions) standing, so to speak, at opposite constitutional poles. In one—liquor, traffic in intoxicating drinks—an unprecedented freedom was conferred upon the states, and in the other—free speech, traffic in illuminating thoughts—a most exacting restriction was imposed. In neither situation can the result be considered a surprise; both had been fairly well forecast by other decisions in the past two or three years.

On Jan. 3, as if by way of inaugurating the sesquicentennial of the Constitution, the Court handed down two decisions which, as far as state power over incoming traffic in intoxicating liquor is concerned, in effect turned the constitutional clock back just 150 years. *Indianapolis Brewing Co. v. Liquor Control Commission of Michigan* involved a Michigan statute prohibiting local dealers from selling beer manufactured in a state which by its laws discriminated against Michigan beer. *Finch v. McKittrick* had to do with a Missouri statute of a similar character, aimed at alcoholic liquors generally and prohibiting their transportation into the state if manufactured in states discriminating against Missouri beer.

These cases raised the question whether a state, which recognizes wines, beers, and spirituous liquors as articles of lawful commerce and consumption and which admits such articles produced in other states generally, may exclude from its borders such articles manufactured in certain states for the sole reason that those states discriminate against locally manufactured beer. Put a bit differently, the question was whether the states are free to wage trade wars on the liquor front. Both statutes were sustained, the reason being that since the Twenty-first Amendment "the right of a State to prohibit or regulate the importation of intoxicating liquor is not limited by the commerce clause."



Thus another judicial effort to settle the constitutional difficulties of the liquor question, difficulties which have beset the Court for over a century. Whether the Twenty-first Amendment, in the light of its manifest and principal purpose of undoing the mistake of the Eighteenth and of returning the problem to the states with an assurance to them of constitutional protection for those desiring to remain "dry," was open to the construction given to it by the Court was at least debatable. Prevention of commercial warfare among the states was the prime aim of the commerce clause and constituted one of the most notable accomplishments of the Convention of 1787, and such laws as these would, prior to this Amendment, have gone down under the time-honored construction of that clause. Fortunately these cases, concerned only with intoxicating liquors and resting on the Amendment, have no direct bearing upon the larger question of trade and travel barriers at state boundaries which has recently become of such importance in interstate relationships.

Without the aid of the Twenty-first Amendment (by its terms limited to incoming traffic), the Court sustained in *Ziffrin v. Reeves* (Nov. 13) the power of a state to control the method by which intoxicating liquor can be transported in outgoing traffic. In that case Kentucky permitted transportation only by "common carriers."

## PERSONAL FREEDOM

A group of four cases, all decided together on Nov. 22 and reported under the title *Schneider v. New Jersey*, indicate the wide sweep of protection accorded to freedom of speech and press. These cases involved the validity of municipal ordinances in cities in California, Wisconsin, Massachusetts, and New Jersey which prohibited, either directly or without a permit, the distribution of handbills, circulars, etc., on the streets or in house-to-house canvassing. In each case the ordinance had been sustained by the highest court in the state authorized to pass on its validity, on

the ground that it was an appropriate measure to regulate the use of the streets, or to prevent unsightly littering of them, or to protect householders from annoyance by canvassers.

All four judgments were reversed by the Supreme Court in an opinion by Mr. Justice Roberts from which Mr. Justice McReynolds alone dissented.

After pointing out that the freedom of speech and of the press secured by the First Amendment against abridgment by the United States is "similarly secured to all persons by the Fourteenth against abridgment by a State," Mr. Justice Roberts proceeded:

"This court has characterized the freedom of speech and that of the press as fundamental personal rights and liberties. The phrase is not an empty one and was not lightly used. It reflects the belief of the framers of the Constitution that exercise of the rights lies at the foundation of free government by free men. It stresses, as do many opinions of this court, the importance of preventing the restriction of enjoyment of these liberties.

"In every case, therefore, where legislative abridgment of the rights is asserted, the courts should be astute to examine the effect of the challenged legislation. Mere legislative preferences or beliefs respecting matters of public convenience may well support regulation directed at other personal activities, but be insufficient to justify such as diminishes the exercise of rights so vital to the maintenance of democratic institutions. And so, as cases arise, the delicate and difficult task falls upon the courts to weigh the circumstances and to appraise the substantiality of the reasons advanced in support of the regulation of the free enjoyment of the rights."

He concluded the general discussion with a paragraph which may be looked on as the Magna Carta of the pamphleteer. Pamphlets, he writes, "have proved most effective instruments in the dissemination of opinion. And perhaps the most effective way of bringing them to the notice of individuals is their distribution at the homes of the people. On this method

## THE SUPREME COURT AND CONSTITUTIONAL LAW

of communication the ordinance imposes censorship, abuse of which engendered the struggle in England which eventuated in the establishment of the doctrine of the freedom of the press embodied in our Constitution. To require a censorship through license which makes impossible the free and unhampered distribution of pamphlets strikes at the very heart of the constitutional guarantees."

Aside from, or rather in addition to, their importance on the merits, these cases reveal a significant development in the methods employed by the Court in dealing with legislation in the field of personal freedom. The Court appears to have revived an old, but little used, rule that constitutionality will be determined on the basis, not of what was actually done, but of the worst that could be done under the legislation in question; and the implications of the opinion are reasonably clear that the Court is about ready to declare that in this area the presumption runs, not in favor of, but against legislative action. In so doing the Court is giving new evidence of something which has been suggested but never explicitly set forth, namely, that cases involving the impact of government on the individual are to be divided, roughly, into two groups, those concerned with material or economic matters and those concerned with matters of the mind, with the constitutional result that governmental action may have the widest possible latitude in the former and the narrowest in the latter.

An earlier case, *Hague v. Committee for Industrial Organization* (June 5), may come to have an important bearing on the development of the law on this subject. The case is the now well-known one in which a decree was issued enjoining Mayor Hague and other officers of Jersey City from interfering with the plaintiffs' rights of freedom of speech and assembly. The findings of fact developed at the trial disclosed that the officials adopted and enforced "a deliberate policy of forbidding the respondents and their associates from communicating their views respecting

the National Labor Relations Act to the citizens of Jersey City by holding meetings or assemblies in the open air and at public places."

An unusual line-up occurred in the Supreme Court where five members agreed that the decree should be affirmed (with modifications which struck out attempts by the lower court to specify conditions under which meetings could be held and how the ordinance might be enforced), but not more than three could get together on any reasons. The interesting and unique feature of the case is that Mr. Justice Roberts, delivering an opinion concurred in by Mr. Justice Black, placed his vote, not on due process, but on the clause of the Fourteenth Amendment which provides that "No State shall make or enforce any law which shall abridge the privileges and immunities of citizens of the United States." That is, in his opinion "freedom to disseminate information concerning the provisions of the National Labor Relations Act, to assemble peaceably for discussion of the Act, and of the opportunities and advantages offered by it, is a privilege or immunity of a citizen of the United States."

Mr. Justice Stone, with Mr. Justice Reed concurring, stood on the due process clause: "It has been explicitly and repeatedly affirmed by this Court, without a dissenting voice, that freedom of speech and of assembly for any lawful purpose are rights of personal liberty secured to all persons, without regard to citizenship, by the due process clause of the Fourteenth Amendment. . . . It has never been held that either is a privilege or immunity peculiar to citizenship of the United States, to which alone the privileges and immunities clause refers . . . and neither can be brought within the protection of that clause without enlarging the category of privileges and immunities of United States citizenship as it has hitherto been defined." And he made the important procedural points that no objection had been raised on the privileges and immunities clause, and that such objection could not be considered for the reason

## I. AMERICAN POLITICAL HISTORY

that the litigants made no allegation that anybody whose freedom had been interfered with was a citizen of the United States. Mr. Chief Justice Hughes said he agreed with the opinion of Mr. Justice Roberts "with respect to the merits" but that he concurred in Mr. Justice Stone's opinion on the point that the record did not justify resting jurisdiction on the citizenship ground. Justices McReynolds and Butler dissented. Justices Frankfurter and Douglas took no part in the consideration or decision of the case.

This is a new angle from which to approach free speech. If the doctrine asserted by Mr. Justice Roberts should ultimately prevail, it might

have very significant consequences, *e.g.*, a distinction between the rights of citizens and aliens (the latter being protected by due process alone), or a new basis for Congressional legislation to protect the rights of citizens, or a new and more restrictive limit on state action. That Mr. Justice Roberts has not abandoned the new approach is indicated by his opinion in the four cases decided in November. He there called attention to the fact that no allegation of citizenship appeared, but even so he did not go straight to the due process clause. Rather, he referred merely to the Fourteenth Amendment in which the two clauses stand side by side.

### ELECTIONS OF 1939

BY THOMAS NATHANAEL HOOVER

PROFESSOR, OHIO UNIVERSITY

#### GENERAL

Most of the elections in 1939 were of local significance only. Several vacancies in the House of Representatives were filled but in no case did the elections reflect sentiment on national affairs. Several of the vacancies were from the South and, of course, were filled by Democrats. In other districts the Democrats generally cast fewer votes than in 1938.

#### "HAM AND EGGS" IN CALIFORNIA

Of all state issues, amendments submitted in California and in Ohio attracted most attention. In California the voters rejected by a majority of approximately 1,000,000, the so-called "Ham and Egg" amendment, proposed by initiative petition. This provided that each elector, 50 years of age or over, neither an employer nor employee, should be given \$30 each week by the state. The state was to borrow \$20,000,000 for the administration of the pension system at the outset. Later, the money for pensions was to be derived from certain taxes and an additional 3 per cent tax on gross incomes in the state.

#### AMENDMENTS IN OHIO

In Ohio the voters passed judgment on the two amendments sponsored by Herbert Bigelow, president of the constitutional convention of Ohio in 1912 and later a member of Congress. One of these proposals was for a change in the initiative provisions of the constitution. Instead of 10 per cent of the voters of the state, 100,000 would be sufficient to petition for amendments to the constitution. Instead of 3 per cent of the voters, 50,000 would be sufficient to submit bills to the general assembly.

Another proposal was that all citizens of Ohio 60 years of age or over, retired from gainful occupation as wage earners, were to be guaranteed \$50 per month. Married couples, if living together, were to receive \$40 per month for each person. The funds for meeting such pension payments were to be derived from a special 2 per cent tax on real estate and a state income tax equal to one-fourth of the Federal income tax paid by each taxpayer of the state. Both of these amendments were rejected by substantial majorities as seen below in election returns.



## ELECTIONS OF 1939

The Republicans looked upon the rejection of the two pension amendments as evidence of a trend toward their party and away from the excessive spending of the New Deal Administration.

### STATE ELECTION STATISTICS

**Alabama.**—Five amendments were proposed in Alabama and were submitted to the voters July 11, 1939. All five were ratified. Number one provided against trying persons charged with crime by information. The vote was 58,276 for the amendment and 17,336 against. Amendment number two gives the governor the power to grant reprieves to persons under sentence of death. The votes were 56,613 for and 18,557 against. Amendment number three had to do with the place of meeting, time of meeting, and the organization of the legislature of the state. No regular session shall continue for more than 60 consecutive calendar days and no special session for more than 30 days. The pay of members was fixed at \$10 a day with 10 cents per mile for transportation. This was approved by vote of 54,806 to 19,963. The fourth amendment provides for regulation of the administration of trust funds. It was ratified by vote of 53,893 to 20,292. The fifth proposal regulates elections and legalizes voting machines, which was ratified by vote of 53,048 to 19,880.

**Arkansas.**—A special election was held in Arkansas on Sept. 12, 1939, to fill the vacancy caused by the death of Ben Cravens, a member of the House of Representatives from the fourth congressional district. The candidates and votes were as follows: Cravens, 7,597; Steele, 3,926; Cobb, 3,055; Gean, 2,861; Partain, 2,835; Wood, 2,047; Jennings, 613; Rankin, 312.

**California.**—Five referendum and initiative measures were submitted at a special election Nov. 7, 1939. The first proposal was for a constitutional amendment. This provided for \$30 per week for life, to electors 50 years old, who were neither employers nor employees. This is better known as the "Ham and Egg" amendment. The

vote was 993,204 for the proposal and 1,933,557 against. The second proposal provided for amending the chiropractic act. The vote was 801,173 for and 1,894,764 against. Proposals three and four both had to do with amending the Personal Property Brokers Act. Both were approved; the third by vote of 1,853,663 to 753,480; the fourth by a vote of 1,850,811 to 732,873. The fifth proposal was a referendum of a legislative act regarding oil and gas control, which was defeated by vote of 1,110,316 to 1,755,625.

**Georgia.**—A vacancy in the fourth congressional district caused by the death of Representative E. M. Owen was filled by the election of Albert Sydney Camp whose vote was 8,568. The other candidates and votes were Edgar Blalock, 7,711; L. C. Clark, 1,979; and O. M. Duke, 46. At an election held on June 6, 1939, 33 constitutional amendments were voted on, all of which were approved by votes of approximately 18,000 to 10,000. Almost all of these concerned purely local matters.

**Maine.**—On Sept. 11, an amendment was submitted providing for a bond issue of \$45,000,000 for highway purposes. It was defeated by vote of 16,500 to 21,265 for the opposition. Incidentally the state election will be held Sept. 9, 1940.

**Maryland.**—There were two special elections during the year. One in the fifth congressional district on Feb. 3 and the other in the first congressional district on June 6. In the fifth district, to succeed Steven W. Gambrill, deceased, Lansdale G. Sasscer, Democrat, was elected by vote of 23,287 over A. Kingsley Love, Republican, 4,742. In the first district, to succeed T. Alan Goldsborough, resigned, David J. Ward, Democrat, received 14,800; A. Stengle Marine, Republican, 10,723; and George D. Neavitt, Independent, 730.

**Michigan.**—A general election was held April 3, 1939, at which certain state officers were elected and two amendments were voted on. Two justices of Supreme Court, two regents of the university, a superintendent-



## I. AMERICAN POLITICAL HISTORY

ent of public instruction, a member of the state board of education, and two members of the state board of agriculture were elected. The Republicans won every office with a majority of approximately 100,000 in each case. The first amendment provided for non-partisan election of judges and was approved by vote of 376,246 to 241,252. The second amendment related to the powers of circuit court commissioners and was rejected by vote of 205,711 to 351,961.

**New Jersey.**—At a special election June 20, a constitutional amendment to permit pari-mutuel betting received 457,266 votes to 301,128 against. At the regular election Nov. 7, a bond issue of \$21,000,000 for relief purposes received 391,604 votes to 344,483 votes against. The total votes cast for members of the General Assembly were: Republicans, 599,975; Democrats, 535,298; National Prohibition, 8,780; Socialists, 2,880; Socialist Workers, 1,306.

**New Mexico.**—A proposal was submitted to the voters to amend the constitution so that bonds not to exceed \$1,450,000 for state institution buildings might be issued without submission to the voters. It was rejected by a vote of 32,749 against 2,748.

**New York.**—An election was held in the 34th congressional district to fill the place formerly held by Representative Bert Lord, a Republican. Edwin Arthur Hall, Republican, was elected by a vote of 63,332. John V. Johnson was a candidate of both Democrats and the American Labor Party. He likewise had been the Democrat candidate against Mr. Lord in 1938 election. Mr. Johnson's vote in the recent election was 29,780 on the Democratic ticket and 1,362 on the American Labor ticket. An amendment was proposed authorizing the legislature to permit pari-mutuel betting on horse races. It was approved by a vote of 1,225,490 to 594,811. William Irving Sirovich, representative from the 14th N.Y. district, died Dec. 17. The vacancy has not been filled.

**North Dakota.**—There was one referred measure and three initia-

tive measures voted on at a special election held July 11, 1939. The referred measure provided for the repeal of the act creating the office of the Grain Storage Commissioner. It was defeated by a vote of 165,851 to 41,152. The municipal control of liquor act was defeated by a vote of 170,538 to 41,814. The act for the diversion of state highway funds was defeated by vote of 172,513 to 39,789. A state income tax law was defeated by vote of 168,976 to 36,117.

**Ohio.**—One act of the General Assembly relating to the civil service commission was submitted to the voters by referendum petition and was rejected by vote of 1,132,297 to 634,269. An amendment relating to a state board of education, proposed by the General Assembly, was rejected by the voters by 1,137,054 to 747,545. Two amendments, known as the Bigelow amendments, were submitted by initiative petition. One of these providing for old age pensions was rejected by vote of 1,546,207 to 464,670. The other providing for fewer signatures on initiative petitions was rejected by vote of 1,485,919 to 406,612.

**Pennsylvania.**—A special election was held in the fourth congressional district to elect a successor to J. Burwood Daly, who was elected last year by a majority of 8,000 over Roberts, Republican. According to the unofficial report of the special election, John Edward Sheridan, Democrat, was elected to fill the vacancy; however, there is a contest in this case which has not been decided.

**Rhode Island.**—At a special election Feb. 16, 1939, by a vote of 81,477 to 11,772, the voters approved an act of the General Assembly providing for issues of state bonds and funding certain debts.

**South Carolina.**—Clara G. McMillan, Democrat, was elected to succeed Thomas S. McMillan, deceased, in the first congressional district. Her vote was 5,515. Shep Hutto, also a Democrat, received 1,285 votes. James D. DeTreville, a Democrat, received 208 votes.

**Tennessee.**—Special elections were held in the third and sixth con-

## THE NEW YORK WORLD'S FAIR

gressional districts to fill vacancies. In the third district, Estes Kefauver, Democrat, was elected to succeed Sam D. McReynolds, Democrat, by vote of 14,263. Casto Dodson, Republican, received 5,355. In the sixth district, Wirt Courtney, Democrat, was elected to succeed Clarence W. Turner, Democrat, by vote of 8,189,

thus defeating Mrs. Nellie Rust Turner, Democrat, who received 5,002. A proposal for the sale of alcoholic beverages was approved 53,533 to 22,599.

**Wisconsin.**—A vacancy exists in the third congressional district due to the death of Harry W. Griswold, Republican, but as yet no election has been called.

## THE NEW YORK WORLD'S FAIR, 1939

By ROBERT D. KOHN

VICE PRESIDENT, NEW YORK WORLD'S FAIR

### PRACTICAL AND CULTURAL INFLUENCE OF THE FAIR

Social historians are aware that the New York World's Fair, 1939, as one of the greatest educational undertakings, has had a far-reaching effect upon the social, artistic, and cultural welfare of this country. The Fair brought together 60 foreign nations representing 90 per cent of the world's population; 24 American states; and many of the greatest industrial and scientific interests in the United States in a cooperative expression of man's future progress. So wide was the scope of knowledge exhibited, the Fair could not fail to exert a powerful influence upon the 25,817,265 men, women, and children who visited the spectacle, and, through the medium of press, radio, and cinema, the additional millions everywhere. It will probably be years before the full measure of its influence can be gauged.

All of the five great world's fairs held in America prior to the Flushing Meadow exposition speeded up the public consciousness. This should be particularly true of the New York World's Fair 1939. A glance backward shows that former American fairs stand out like milestones in the national progress. Like its predecessors, the New York World's Fair broke ground in many fields. Its opening marked the introduction of commercial television to the general public. In addition, it sponsored the debut of fluorescent lighting, and brought a new appreciation of the role of art to the everyday lives of

men. Its broad theme of the "Building of the Better World of Tomorrow with the Tools of Today" encompassed the whole gamut of human experience and thought, representing a joint effort toward improving the standard of living for everyone, and for greater harmony among nations. The Fair focused public attention on the vast cultural exhibits of foreign nations, and thus infused a new pride in the importance of our national identity.

### THE PLANNING OF EXHIBITS

Space at the World's Fair was allotted to the foreign nations and to the American states within well-defined areas, according to a preconceived ground plan. The World's Fair Corporation as early as the fall of 1936 approved an arrangement of exhibits which varied significantly from the old categories of Science, Art, Agriculture, Industry, etc., which dominated the plans of previous expositions. These archaic forms were replaced by exhibits arranged more or less functionally so as to make evident to the "man in the street" those things which have a direct impact upon his daily life, namely Shelter, Transportation, Food, Clothing, Production and Distribution, and Community Interests.

Both business and industry were quick to grasp the implied significance of the Fair's prophetic theme. Many of the great industrial exhibitors have spent vast sums annually for research in their respective fields. Inventors

## I. AMERICAN POLITICAL HISTORY

have made exciting discoveries of which the average American knew little, representing the tools with which the "World of Tomorrow" will be built. It is these tools which the Fair exhibitors displayed to the public eye, and thus demonstrated the general plan expressed in the 1939 theme. Thus new knowledge, new ideas, new techniques, new instruments, and new materials were released from the reservoir of mankind's accumulated store of knowledge.

### TRYLON AND PERISPHERE

The Fair reclaimed a tidal swamp-land for its site. Gardeners and landscape architects converted it into a garden covering 1,216½ acres with flowers and shrubs and 10,000 trees transplanted from various states. The site will become a permanent park after the exposition concludes its second and final year on Oct. 27, 1940. The Perisphere and Trylon—the 200-foot globe and the 700-foot spire—symbolized the Fair's theme of social reconstruction. The interior of the globe was used as a theater to which spectators were admitted *via* the great electric staircases which moved up through the base of the Trylon. The theme was dramatized in a great spectacle combining sound, motion picture, diorama, and theatre. The drama, which swept to a climax within the six-minute period of its performance, told of the interdependence of man and emphasized the need for rural and urban planning. The performance represented a day in the life of the metropolis of the future, Democracy, imaginatively reproduced in huge scale-model by the noted industrial designer, Henry Dreyfuss.

The Perisphere show was the most popular at the Fair. It drew 5,718,224 paying visitors. The most popular free show at the Fair was the spectacular Lagoon of Nations display. It was estimated that more than 20,000,000 visitors witnessed this fire, water, sound, and fireworks spectacle.

The physical design of the Fair was based on a color spectrum plan which divided the major exhibit area into zones of yellow, red, and blue along

avenues which stemmed from the white Perisphere and Trylon. All along these avenues forms of the future were glimpsed in architectural line and mass; in paint, stone and ornament; in the thousand-and-one exhibits sponsored by industry, business, and foreign nations.

At night, these thoroughfares were illuminated by fluorescent tubes which came direct from the laboratory to achieve new lighting effects in the World of Tomorrow. The fluorescent lamp gives off cold light which makes it suitable for new and economical commercial uses. Chemical powders convert the invisible, ultra-violet radiation into light of soft, pastel tints unlike any achieved by other types of lamp.

### ART AT THE FAIR

The 105 Fair-commissioned murals which decorated the various buildings exemplified how architecture could be embellished to make cities more beautiful and liveable, while 102 pieces of Fair-commissioned sculpture made a promenade of the grounds an esthetic experience. Two great collections of paintings gave additional emphasis to the larger role that art is expected to play in future society. These exhibits were the Masterpieces of Art, a \$30,000,000 collection of the greatest paintings of the past seven centuries borrowed from private collections and museums here and abroad; and the 1,200 canvases and sculptures which comprised the American Art Today exhibit, most comprehensive cross-section of contemporary native art ever assembled under one roof. Foreign pavilions housed the treasures of art of their respective lands, and industry utilized the brush of the artist and the chisel of the sculpture to tell its story of service.

### MEDICINE, HEALTH, HOUSING

One of the largest and most beautiful structures at the Fair, the Medicine and Public Health Building, represented the greatest single lesson in health education ever attempted. The medical exhibits were arranged in two sections. The Hall of Man, sponsored by the American Museum



## THE NEW YORK WORLD'S FAIR

of Health, Inc., focused attention on human physiology. In the adjacent Hall of Medical Science, outstanding public-health organizations, philanthropic foundations, and ethical pharmaceutical houses expanded the scope of their displays to bring up to date man's accomplishments in the field of medicine. The latest knowledge of cancer, diabetes, blood diseases, pneumonia, allergy, heart disease, syphilis, and tuberculosis indicated the advances made in controlling these diseases.

The educational value of the Fair was attested by the fact that it attracted 7,500,000 people to the medical exhibits, thereby making possible the establishment of a Museum of Public Health in the City of New York. It is difficult to exaggerate the benefits of this type of education.

The Fair's preoccupation with the problem of housing man was reflected in the Town of Tomorrow, where 15 full-sized, completely furnished houses illustrated new trends in design and decor of the modern home. The Electrified Farm provided a close-up view of the streamlined agricultural unit of tomorrow, displaying more than 100 rural uses of electricity.

### AUTOMOTIVE EXHIBITS

Automotive exhibits placed particular emphasis upon safety in travel with relation to highways of the future and showed the advances made in construction of automobile equipment. The General Motors "Highway and Horizons" exhibit provided visitors with a 15-minute ride into 1960. Seated in easy chairs on a continuously moving escalator platform, visitors experienced the sensation of soaring over varied landscapes of the future, while a voice instrument carried to each person description of the vistas. This illusion was accomplished by means of the largest, most life-like model in the world. Designed by Norman Bel Geddes, the Futurama contained approximately 500,000 miniature houses and buildings, 1,000,000 trees, and 50,000 scale-model automobiles.

The theme of the Ford Motor Co. exhibit building, located alongside the

General Motors Building, was also prophetic of the possible trends in motor transportation. Designed by Walter Dorwin Teague, its climax was in the "Road of Tomorrow," an elevated highway more than half a mile long, rising upon a series of spiral ramps encircling the main building. On this highway, which forecast the elevated structure expected to help solve traffic problems of the future, visitors rode in Ford-made cars high above the crowds. Another outstanding feature of this exhibit was the huge 152-ton turntable which portrayed by means of hundreds of animated plastic models the 87 different cycles of production in a modern automobile.

In the Chrysler Building a remarkable demonstration of a rocketship flight to Mars was staged. Three-dimensional movies viewed through Polaroid eyeglasses were also shown in an adjacent theater. This picture, dramatizing the construction of Chrysler motor cars, was the only example of this new photographic technique used at the Fair.

### RAILROADS AND AVIATION

The romance of the development of the American railroad was the subject of an impressive stage spectacle performed on a huge outdoor stage equipped with tracks. The cast included 250 actors, hundreds of live animals, and a historic cavalcade of famous locomotives. In the "yard" of the 17-acre Railroad Exhibit Building were exhibited outstanding trains operating throughout the world today—the Coronation Scot from England; crack flyers from Italy; and the streamlined oil-powered engines used in the United States. A special feature was the super 562-ton engine, largest steam locomotive ever built, which ran on a roller-bed at a speed of 60 miles an hour continuously.

The achievements of aviation were presented in the Aviation Building which used actual airplanes and functioning airport apparatus to tell the story of growth in the past decade. The Aviation Building was designed to represent the fuselage of a modern airliner emerging from a hangar.



## I. AMERICAN POLITICAL HISTORY

### INDUSTRIAL AND COMMERCIAL DESIGNS AND FUNCTIONS

Many other exhibitors made functional use in their buildings of designs connected with their industries. The Electric Utilities Exhibit's Building was in the form of a hydro-electric dam, water pouring over a spillway down one wall of the building. The Marine Transportation Building took the form of twin ship prows towering higher than the prows of real transatlantic ocean liners. The Petroleum Building was an unusual conception in the form of a condenser or cooling unit used widely in the industry. A huge oil-derrick in actual operation under the experienced hands of a crew of Tulsa drillers flagged attention to this latter exhibit.

Manufacturing processes never before revealed to the public, and factories in full operation, were displayed by industry to dramatize their functions in supplying human needs. At the Firestone Tire and Rubber Co. a full-sized factory produced a tire every four minutes, while a narrator explained to the spectators the process and the function of the machines turning crude rubber and cotton into auto tires. Within the DuPont "Wonderland of Chemistry" machines spun acetate rayons, created cellophane, and stuffed toothbrushes with plastic bristles. In the Glass Center, furnaces and spinning machines operated in a demonstration of the manufacture of fiberglass fabrics, the remarkable fireproof, stain-proof cloth resembling ordinary fabrics spun from glass marbles. A 10,000,000-volt bolt of lightning, largest ever created artificially, was discharged systematically by General Electric Co. engineers to show how man has chained the forces of nature.

The Borden Co. "rotolactor" portended the scientific production of better milk. On this huge mechanical turn-table, 138 pedigreed cows were automatically milked in full view of spectators. The potentialities of hydroponics—the soil-less cultivation of plants by which crop yields can be increased ten-fold—was graphically dramatized at the Electrified Farm, H. H. Heinz Co., and at the Gardens

on Parade the greatest horticultural display of modern times extending over five acres and presenting 50 outdoor gardens of every type.

The House of Jewels had on view the largest collection of rough and polished diamonds ever exhibited to the public at one time. The total value of this collection exceeded \$5,000,000.

### RADIO AND TELEPHONE

Daily demonstrations of television which made its debut to the public at the exposition were on view at the Radio Corporation of America, General Electric, Crosley Corporation, and the Westinghouse exhibits. The Radio Corporation also set up an exhibit to demonstrate the method of radio-broadcasting newspapers known as "facsimile." Staff members from the *New York Herald Tribune* edited and transmitted a newspaper *via* facsimile with the paper emerging fully printed on 12 x 8 sheets before the eyes of visitors.

The human voice was synthetically reproduced for the first time through an intricate machine known as the Voder at the American Telephone and Telegraph Exhibit, which also included a priceless collection of instruments tracing the development of the modern telephone.

### PHOTOGRAPHY AND MOTION PICTURES

The scientific advances which have made possible today's photography with its influence on modern life was presented in the Eastman Kodak Co. exhibit. The main feature of the exhibit was the Cyclorama of Color, in which transparencies were magnified 50,000 times by means of a battery of 13 specially-constructed projectors upon an enormous screen 22 feet high and 187 feet long.

More than 500 movies were shown on the Fair grounds by exhibitors, and in the Little Theater of the Science and Education Building a daily program of educational films was projected free of charge. This program included *The City*, a documentary film on urban planning, prepared especially for the Fair through a grant by the Carnegie Corporation.

## THE NEW YORK WORLD'S FAIR

### FOREIGN PAVILIONS

**Representation.**—Twenty-two foreign nations were represented at the Fair with their own pavilions, while the exhibits of others were housed in the Halls of Nations grouped around the United States Government Building and flanking the Court of Peace. Twenty foreign nations operated restaurants serving native dishes. All the participating nations filled the buildings with their finest examples of native art, industry and culture.

**Albania.**—Albania's display of its culture included many historical relics, among which were the crown and sword of the national hero Skanderberg (1403-67).

**Belgium.**—An outstanding exhibit in the Belgian Pavilion showed activities in the Congo connected with the production of tropical woods, palm oil, copal gum, skins, radium, and diamonds. Skilled lapidaries cut and polished diamonds in the view of the spectators. One of the outstanding buildings at the Fair, the Pavilion was constructed entirely of native tile and materials and was crowned by a 155-foot bell tower containing 36 bronze bells which were played at regular intervals by a Belgian carillonier.

**Brazil** focused attention on its most important product—coffee—with a display and coffee-bar serving the beverage in its beautiful pavilion, which rose on stilts above a tropical garden typical of the countryside in this South American country.

**Chile** depicted the early life of the Araucanian Indians and their present civilization, and the dramatic story of the important Andes ore-mining industry was presented in this pavilion.

**Czecho-Slovakia.**—The industrial vigor of the Republic of Czecho-Slovakia was attested by an exhibit of native glass, ceramics, textiles, and of products of its iron and steel industries, as well as agriculture. A huge stained-glass window pictured the accomplishments of the shoe king, Jan Bata.

**Denmark.**—A bronze "lur"—Viking battle trumpet dating from 2,500 B.C.—dramatized the antiquity of the Danes. Denmark also displayed ex-

amples of its porcelain, silverware, and other art-craft.

**Ecuador** featured beams and panels of balsa wood, the extraordinary light wood of which Ecuador supplies approximately 85 per cent of the world's supply, and a demonstration of native skilled workers weaving "Panama" hats from the fibres of the Toquilla palm.

**England.**—The single most precious relic on view at the Fair was one of the three original copies of the Magna Carta displayed in the British Pavilion. Other exhibits of empire included collections of ceremonial plate, coins from the Royal Mint, heraldic emblems, a comprehensive exhibit of contemporary British painting, and the famous racing car "Thunderbolt" in which Captain Eyston recorded the world's land-speed mark. The famous Coldstream Guards band was brought over for a series of daily concerts in the British garden.

**Finland.**—The interior of the Finland Pavilion was a magnificent modern design in wood, the country's major export. Displays were chiefly wood and its byproducts.

**France.**—A cross-section of French culture and industry was on display in the French Pavilion. Dioramas displayed the charms of the country's provinces, accentuated by four full-sized interiors of homes from Alsace, Provence, Brittany, and Savoie. Five centuries of French history were illustrated by the most comprehensive exhibition of French painting, sculpture, and decorative art ever assembled in America. Many of the Parisian specialties for which France is famous—lingerie, gowns, hats, perfumes, and de-luxe motor cars—were shown in elaborate setting, as well as displays of the country's outstanding achievements in literature, philosophy, education, and music. On a terrace overlooking the Lagoon of Nations, the French restaurant served the famous dishes of the country.

**Greece.**—Five pieces of ancient sculpture—including a head reputedly by Praxiteles—epitomized the glory of Greek art in the pavilion of this country. They were the first important pieces of Greek art permitted

## I. AMERICAN POLITICAL HISTORY

outside the country since Lord Elgin's famous marbles were taken to England.

**Hungary.**—Reflecting the culture and achievements of the Magyars, Hungary displayed native arts and crafts developed during 1,000 years of national existence—peasant pottery, carving, Matyo embroidery, Halas lace, decorated glassware.

**Iraq.**—Native artisans hammered gold and silver into bracelets and rings in replicas of the ancient Baghdad trade booths in the Iraq Pavilion, where exhibits also dramatized the contrast of Biblical ruins with Iraq's modern buildings.

**Ireland.**—In a building designed to resemble a shamrock, Ireland exhibited such native products as Irish whiskey, stout, bacon, pottery, woollens, and linens.

**Italy.**—The story of Italy under Facism was unfolded in a series of displays portraying the country's industrial achievements in the past decade. The growth of Rome from the time of the Caesars to the present day was projected in a series of dioramas. The historic apparatus with which Giovanni Marconi laid the foundation for radio and wireless communication climaxed the story of Italian invention in the field of science. These exhibits were housed in a huge three-storied building down the serrated façade of which cascaded a fall of water to a pool 200 feet below. The huge tower of the building was surmounted by a statue of the goddess Roma.

**Japan.**—The original telegraph recording instrument made by Samuel F. B. Morse, inventor of the telegraph, and presented by Commodore Perry in 1854 as a gift from President Millard Fillmore to the Emperor of Japan, was exhibited in the Japanese Pavilion because of its historical value as the medium which first linked Japan with the outside world. The pavilion itself was a reproduction in red lacquer and gilt of an ancient Shinto shrine set amid a typical Japanese landscape with dwarf pine, azaleas, and rock gardens. Other exhibits included oil paintings on silk, a replica ( $\frac{1}{2}$  actual size) of the

Liberty Bell made of 11,600 cultured pearls and 400 diamonds, and many other native *objets d'art*. Native girls operated machines in an actual factory demonstration of the process by which silk is spun from the cocoons of silkworms.

**League of Nations.**—The work of the League of Nations in the field of economics, finance, communication, health, nutrition, housing, drug control, cultural advancement and even disarmament was effectively told in this cooperative exhibit.

**Mexico.**—The Mexican Pavilion contained colorful displays of historical relics harking back to the Mayan civilization, and of recent social and industrial reforms carried out in modern Mexico. A fine exhibition of contemporary Mexican art was shown, including works by such famous figures as Diego Rivera and José Clemente Orozco.

**Netherlands** presented a comprehensive survey of the economic and cultural importance of her empire in a resplendent building crowned with a bell tower containing 35 bells and surrounded by two acres of ground set out in a typical Dutch garden. Outstanding exhibits included a collection of modern and ancient Balinese art; music by a Javanese string orchestra; demonstration of native crafts by Javanese men and women; dioramas of the country's forward strides in city planning, slum clearance, social welfare; and exhibits of Dutch cheese, machinery, and fine ceramic ware.

**Peru.**—Displays of the pre-Inca and Inca civilization in the Peru pavilion included a presentation of mummies shown as they were found in the ancient tombs with their funeral garments. Contrasting displays of modern Peru's progress included models of the famous "Restaurant Populares" where laborers dine at a cost of 5¢ a complete meal and their children are provided with a free breakfast daily.

**Poland.**—The comprehensive exhibits of Poland were shown in a beautiful building dominated by a 150-foot golden tower. An exhibit of original documents and a series of paintings commemorating significant



## THE NEW YORK WORLD'S FAIR

events in its history stressed the democratic traditions of Poland. In addition, there was a superb collection of modern Polish painting and sculpture, native handicraft, a display of five fully-furnished rooms indicative of the leadership of Polish craftsmen in the field of decorative art. In the Hall of Science 200 inventions of Polish origin were displayed, and the outstanding products of its mines and factories and farms were assembled for a review of its industrial progress.

**Sweden.**—Swedish modern furniture, glass, pottery, and silver were displayed and dramatized the social accomplishments of the government of the "middle way." The pavilion was generally recognized as a masterpiece of modern functional design, consisting of a garden courtyard enclosed by a quadrangle of one-story "loggias" shaded on all sides with broad cantilevered roofs of a new design.

**Switzerland** featured three products which have made the country famous—democracy, watches, and cheese.

**Turkey.**—Historically important volumes, rare tapestries, rugs, and other priceless objects culled from museums traced 5,000 years of Turkish history since Hittite times in the Turkish Pavilion.

**Soviet Russia** displayed a remarkable series of exhibits showing the achievements of the first Socialist country in the world in a huge pavilion constructed entirely of native marble, granite and porphyry, which has been dismantled and will be reconstructed in Russia as a permanent exhibit. Russia was the largest foreign exhibitor in the Fair. Its expenditures exceeded \$6,000,000. The horse-shoe shaped building was dominated by a 269-foot tower on which was mounted a 79-foot stainless steel figure of "The Worker" holding aloft the red star of Communism. Feature exhibits included a reproduction of one of the new stations of Moscow's "palace subway"; a replica of the projected Palace of Soviets which, it is said, when completed, will be 100 feet higher than the Empire State

Building; a map of the Soviet Union worked out in precious and semi-precious stones. In addition to paintings and sculpture of leading Soviet artists and a review of handicraft such as wood carving, lacquer work, embroidery and hand-woven carpets for which the country is famous, there were dioramas and motion pictures of Soviet progress in industry, agriculture, and education. A separate pavilion, close to the main building, was devoted to Soviet achievements in the Arctic and contained the actual equipment used by the band of scientists headed by Ivan Papanin who drifted for months on an ice-flow to gather Polar data.

**Venezuela.**—Surrealistic in design, the Venezuela Building contained displays of fresh orchids shipped *via* airmail to the Fair from the South American country every few days; a lock of George Washington's hair which had been presented to Simon Bolivar, Liberator of South America, by the United States Government; and an exhibition of sculpture in ebony by the country's leading artist, Francisco Narvaez.

**Other Countries.**—Other countries exhibiting at the Fair included Argentina, Australia, Canada, Cuba, Iceland, Pan-American Union (Bolivia, Colombia, Guatemala, Haiti, Honduras, Panama and Uruguay), Republic of Lebanon, Lithuania, Luxemburg, New Zealand, Norway, Portugal, and Yugoslavia, and the Territory of Puerto Rico.

### THE AMERICAN SECTION

**Federal Building.**—The American section of the Fair was a dramatic and popular evocation of the national philosophy of peace and freedom. A great edifice with two massive towers flanking a colonnade of 13 columns—one for each of the 13 original states—the Federal Building contained displays describing the function of government in every field of human activity, shown in twelve basic sections, intended to give the average person a better understanding of its service. These divisions were: conservation, food, shelter, industry, trade, finance and credit, transporta-



## I. AMERICAN POLITICAL HISTORY

tion and communication, social welfare, education, arts and recreation, protection, foreign relations and territories, and fiscal affairs.

The dominant feature of each of these 12 exhibits was a revolving mural seven feet wide and extending 23 feet up the back wall of the building. The murals, painted by Eugene Savage upon a belt-like strip of canvas, revolved slowly downwards into groups of statuary symbolic of each function. American traditions and achievements were pictorialized in a specially-made film "These United States," shown in a motion picture theater seating 500 persons.

**New York City.**—As host to the exposition, New York City was substantially represented at the Fair with a dramatic exhibit describing the everyday functions of a great municipality in providing service to its citizens. These exhibits were housed in one of the few permanent structures on the grounds which will remain standing after the Fair as part of the future municipal park.

**Court of States.**—With two exceptions, participating states had erected their exhibits around the flag-banked pool in the Court of States near the Federal Building. These exceptions were Florida and New York, both of which were in the Amusement area in their own buildings. The roster of states which exhibited at the Fair included Arizona, Arkansas, Connecticut, Florida, Georgia, Illinois, Maine, Massachusetts, Missouri, Nevada, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, Tennessee, Texas, Utah, Vermont, Virginia, Washington, and West Virginia. Each state presented the story of its individual achievements and contributions to the national heritage in exciting fashion, but several exhibits were outstanding.

**The Pennsylvania Building.** closely resembling Independence Hall in Philadelphia, contained a collection of early American, historical documents and rare books illustrative of the state's advance from the date of its founding to the present. These included a life mask of George Washington by Jean Antoine Houdon;

Washington's personal copy of the Declaration of Independence corrected in his own handwriting; the first Bible printed in America; holograph letters by Benjamin Franklin and Robert Morris, financier of the Revolution; death mask of Abraham Lincoln. Despite its historic exterior, the interior of the Pennsylvania Building was vigorously modern throughout with materials native to the state's soil and manufacture—coal, steel, glass and aluminum—used in the construction.

**Florida.**—The 5,138 trees, shrubs, and plants which Florida transplanted from the South to decorate the grounds and patio of its pavilion represented the largest tropical collection ever planted out-of-doors in the north. A huge Spanish structure with ornamental grille work, tile roof, and a bell tower containing the world's largest carillon of 72 bells, the building stood on the shores of Fountain Lake. Among the exotic and tropical plants at the Pavilion in full bloom were the sugar apple, tamarind, carambola, guava, carissa, 16 large orange and grapefruit trees, thunbergia, bougainvillea, shrimp blossom, papaya, mango, monstera delicosa, sea-grape, and several varieties of palm.

**New Jersey and New England.**—New Jersey reproduced the historic Trenton Barracks to house its exhibit, and the combined New England exhibit reproduced a realistic old waterfront scene with a full-sized sailing vessel, replica of the famous square-rigger *Robert Morgan* floating in a pool of water alongside.

**Fair to Continue in 1940.**—The New York World's Fair 1939 brought together the best that America and many nations had to offer. The impact of new ideas, new methods, and interesting personalities was felt here by millions. The Fair offered facts, not merely theories, on which to base a better human society in the future. So successful was its efforts in this direction held to be, and so important its role as a factor for peace and freedom in a war-torn world, that the Fair voted to continue the exposition for a second year. The opening date was set for May 11, 1940.

## GOLDEN GATE INTERNATIONAL EXPOSITION, 1939

BY JOHN PATRICK CARROLL

EDITORIAL DEPARTMENT, THOMAS NELSON & SONS

### AIRPORT-BRIDGE MOTIVE

San Francisco needed a new municipal airport, and San Franciscans were determined that the completion of the Golden Gate and San Francisco-Oakland Bay bridges should be adequately celebrated. The result was Treasure Island and the Golden Gate International Exposition.

### GENESIS AND DEVELOPMENT

The project began April 20, 1932 when the San Francisco Junior Chamber of Commerce finished the survey begun in March, 1931 and recommended building a municipal airport on the Yerba Buena shoals in San Francisco Bay.

The first step toward the Fair's realization came in February, 1934 when J. W. Mailliard, Jr., president of the San Francisco Chamber of Commerce, appointed an executive committee of 26 civic and business leaders to study the proposal.

In May, Leland W. Cutler, who directed California's Commission to Chicago's Century of Progress Fair and who had served three terms as president of San Francisco's Chamber of Commerce, was elected President.

William P. Day, whose firm designed and built The Chronicle Building, and the Mark Hopkins and Fairmont Hotels in San Francisco, quickly proved it was practicable to build an island on the Yerba Buena shoals.

Early in 1935, The San Francisco Bay Exposition, a non-profit corporation, was formed, and in May, 1935 the voters approved the building of Treasure Island by a vote of 79,549 to 47,616.

### EXPOSITION LEADERS

The Exposition's Board of Directors comprised approximately 150 financial, industrial, and commercial leaders of the San Francisco Bay area. The Board of Management consisted of

James B. Black, Colbert Coldwell, P. H. Patchin, and J. W. Mailliard, Jr. Harris D. Connick was the original chief director. Atholl McBean accepted the post of chairman of the Board with Leland W. Cutler as president. William P. Day, as vice-president and director of Works, planned the construction. John F. Forbes acted as Treasurer, while George D. Smith and Major Charles Kendrick held posts as vice-presidents. H. C. Bottorff was given the position of Executive Secretary and Assistant Treasurer and Colonel Allen G. Wright was Secretary and General Counsel.

### FINANCING THE EXPOSITION

The deciding factor in the financial negotiations was San Francisco's intention to establish a permanent municipal airport on Treasure Island. U.S. Army Engineers studied the shoals for prevailing winds, fog, tides, depth soundings, location, and with the accessibility given to Yerba Buena Island by the San Francisco-Oakland Bay Bridge, the site was found to be ideal.

As the completed airport will be considered a valuable asset in national defense plans, besides being needed for the further development of trans-Pacific air routes, a loan of \$3,800,000 was granted by the PWA. Additional WPA and PWA funds were applied to the construction of permanent buildings and public services such as drainage, sewerage, and water supply.

George Creel, a member of the Exposition's Executive Committee and United States Commissioner for the Exposition, was one of the leading figures in the financial picture, and was especially active in settling questions arising between the Government at Washington and the Exposition Corporation.

## I. AMERICAN POLITICAL HISTORY

### THE BUILDING OF TREASURE ISLAND

Treasure Island was constructed in 18½ months under the supervision of U.S. Army Engineers at a cost of \$3,719,000. Work started June 1, 1935 when a crew of 12 men began boring and sounding operations. The first sand was dumped on the shoals more than seven months later on Feb. 11, 1936, and it was at this time that the Fair's opening date was definitely set for Feb. 18, 1939. Land showed above water on Feb. 17, 1936, and on May 1 of that year construction started on a seawall more than three miles in length and containing 287,000 tons of rock. This seawall held the 20,000,000 cubic feet of sand dredged from sections of the harbor bottom firmly in place on the shoals. The resulting land comprises an area of 400 acres of level ground in a rectangle 5,520 feet long and 3,400 feet wide at a height of 13 feet above mean low water.

Governor Merriam broke the ground for the first buildings with a golden spade on Aug. 21, 1936. William P. Lawson, California Administrator for the PWA, transferred title to the city on Nov. 21, 1937. At the same time, Supervisor Warren Shannon, acting Mayor, presented a lease on the property to Atholl McBean, chairman of the Exposition's Directors.

### "PACIFICA" ARCHITECTURE

To meet the final conception of the Golden Gate International Exposition as a "Pageant of the Pacific" the Architectural Commission, first headed by the late George W. Kellham, and carried to completion under Arthur Brown, Jr., with Lewis P. Hobart, William G. Merchant, Timothy L. Pflueger, and Ernest E. Weihe, created a new mode, "Pacifica," to embody building motifs from both the eastern and western shores of the Pacific.

Huge windowless exhibit palaces, 100 feet high, gave the effect of an ancient walled city, and the interior courts with long rows of square pilasters were reminiscent of Angkor Wat.

To avoid the effect of too great mass, the west elevation was broken

in the north by the Northwest Passage leading to the Court of the Pacific. Here, the 80-foot statue of "Pacifica" by Ralph Stackpole towered before a 100-foot metal Persian Prayer Curtain. "Pacifica" represented the Fair's underlying motif—Pacific, peace and unity.

Near the southern end, the wall effect was also interrupted by the Portals of the Pacific that led to the Court of Honor. The ramparts of these portals were spread in the heavy masses of Malayan pyramids which converged sharply into towers supported by formalized elephants and climaxed by elephant heads and howdahs, emphasizing the Oriental theme.

A golden Phoenix, symbolic of San Francisco's rise from its ashes after the fire of 1906, crowned the 400-foot Tower of the Sun. This tower, from its central position in the Court of Honor, dominated the landscape and mounted a 44-bell carillon fabricated in Croydon. The carillon will later be placed in the Grace Cathedral Tower atop San Francisco's Nob Hill.

From this Court of Honor radiated the main sections of the Exposition—the Court of the Seven Seas and Court of Pacifica toward the north; the Courts of Flowers and of Reflections eastward, and the Court of the Moon and Enchanted Gardens toward the south.

In these courts, framed by the massive halls mingling Oriental, Cambodian, Mayan styles in the lesser masses and details, an effect of basic beauty, refinement, and richness was interwoven with a mystical touch of yesterday. Exterior color schemes offered repose, dignity, and beauty of balance in masses and contrasts.

### HORTICULTURAL PROGRAM

Before Treasure Island's 280-acre garden could be planted, the salty black sand had to be cleaned. Water totaling 187,000,000 gallons was washed over the soil, and this, combined with rain and applied chemicals, lowered the salt water level eight feet, ample for roots. Next, 100,000 cubic yards of rich loam was spread over the planting areas and conditioned with 100 tons of fertilizer. Soon after,



## GOLDEN GATE INTERNATIONAL EXPOSITION, 1939

4,000 boxed trees were delivered by barge to the island followed by 40,000 shrubs, small trees, and tropical grasses, while millions of flowers were brought from a 20-acre propagation area at Balboa Park in San Francisco.

More than 1,000,000 separate cuttings of mesembryanthemum color the 25-acre Magic Carpet along the west shore, while the base of the western wall was bordered by 10,000 cabbages and beets, supplanted in season by giant squash and pumpkins. In the predetermined color scheme, blooms of similar color from 435,000 bulbs supplanted each other during the year.

Julus L. Girod, chief of the Bureau of Horticulture, planned this \$1,500,000 horticultural program, with John McLaren, creator of Golden Gate Park, acting as adviser.

### EXPOSITION'S ILLUMINATION

An appropriation of \$1,500,000 was made for the illuminating program, directed by A. F. Dickerson, expert of the General Electric Company who worked with the late W. D'Arcy Ryan on the 1915 Exposition.

The effect of color masses and patterns on Treasure Island was made possible by the use of 10,000 colored floodlights hidden in troughs, clustered in tree baskets, and buried under shrubs. These included 2,400 pink, blue, gold, and green fluorescent tubes, 130 searchlights, and 300 ultra-violet or "black-light" lamps. Primary colors were mixed to obtain new colors, as, for example, the crossing of pink fluorescent tubes by blue floodlights to produce mauve.

The methods, however unusual and difficult, were well worth the effort for as darkness fell over the Exposition grounds the stucco-covered exhibit halls became great palaces of an ancient, forgotten city—non-existent yet magically existing!

### U. S. GOVERNMENT EXHIBIT

The Federal Building, with seven acres of exhibits, presented a "Pageant of America," showing the historical background, the present, and a glimpse into the future of the United States.

This action story was presented at a cost of \$1,500,000.

Ten fundamental subjects were treated in the Federal exhibit: (1) American Indian, (2) conservation, (3) social affairs, (4) economic affairs, (5) march of science, (6) Federal Theatre Project, (7) WPA art, (8) housing, and (10) national defense and the Coast Guard.

The building was in the form of a rectangle surrounding open courts. Each of the 48 columns of the Colonnade of States in the center represented a state and was decorated with that state's flag. Three aisles leading through the Colonnade symbolized the executive, legislative, and judicial branches of the Government.

### CALIFORNIA PARTICIPATION

To assist in financing the presentation of California's picture, and to allow the "Bear State" to play host to the world on Treasure Island, the California Legislature appropriated \$5,000,000 and created the California Commission for the Golden Gate exposition in November, 1937.

The California Commission administered the Hall of Flowers in the California Area and the Recreation Building. It sponsored the exhibits of Agriculture Hall, of California education in the Hall of Science, and of Treasure Mountain in the Mines, Metals, and Machinery Building. It erected the Coliseum, the Livestock Pavilion, and the California Auditorium for the Exposition, and participated in the erection of Dairyland and the Press Building.

The central structure in the California Area was the California State Building where the Commission's administrative offices and a suite for the Governor were located. In this building, California held "open house" and official receptions.

The San Francisco, Alameda-Contra Costa, Mission Trails, Los Angeles and San Diego, Alta California, San Joaquin Valley, Sacramento-Tahoe Region, Redwood Empire, and Shasta-Cascade county buildings completed this group and served to portray California's accomplishments and scenic beauty to visitors.



## I. AMERICAN POLITICAL HISTORY

### ADMINISTRATION BUILDING

This four-story building, erected at a total cost of \$900,000, is one of the three permanent structures on Treasure Island. Built in a semi-circular design, with a control tower and underground floor, it will permit the loading of five airplanes simultaneously. The other buildings are the hangars which temporarily housed the Hall of Air Transportation and the Palace of Fine and Decorative Arts.

### THE PALACE OF FINE AND DECORATIVE ARTS

The Art Exhibit, valued at \$35,000,000, was assembled and arranged in four divisions.

**European.**—The Italian government lent Botticelli's *Birth of Venus*, Raphael's *Madonna of the Chair*, Titian's *Portrait of Paul III*, Michelangelo's *Madonna*, and the *Child with Young St. John*. France, Belgium, Holland, England, and other European countries contributed masterpieces from their own national art.

**Decorative Art.**—The exhibit of contemporary decorative arts reflected the present culture of western Europe and America. Included in this section were 30 miniature architectural models of period rooms by Mrs. James Ward Thorne, presenting a four-century study of interior decoration and architecture of England, France, and The Netherlands.

**Pacific Cultures.**—Eight galleries were filled with arts and craftwork from 50 countries of the Pacific Rim in every material and technique employed by craftsmen of these countries.

**Contemporary Art.**—Eight hundred and thirty-one artists were represented in this showing of present-day art of the United States, Australia, Canada, Mexico, and 12 European countries.

**American Historical Paintings.**—In a gallery set aside by the Fine Arts Committee, historical American paintings including Gilbert Stuart's *George Washington*, John Trumbull's *General Washington at the Battle of Trenton*, and Mary Cassatt's *Fillette au grande Chapeau* were on display.

### HALL OF AIR TRANSPORTATION

While one-fourth of this second fireproof hangar was reserved for commercial aviation exhibits, the major portion was, and is, used as an air base by the Pan-American Airways. The actual servicing of the giant trans-Pacific seaplanes was done in full view of visitors watching from the spectators' balcony.

### WESTERN AND MID-WESTERN EXHIBITS

Built around a huge relief map of the West, this imposing structure presents the economic story of the commonwealth sponsoring the Fair. British Columbia was included with Oregon, Washington, Wyoming, Montana, Idaho, Nevada, Utah, Colorado, Arizona, and New Mexico. A Colonial building with a complete cross-section of Missouri was graphically presented. The Illinois building was a stately pavilion tracing commerce and culture from Abraham Lincoln's time to modern Chicago.

### LATIN-AMERICAN COURT

**Mexico.**—A charming tile-roofed country house unofficially represented our southern neighbor. Leading Mexican artists exhibited paintings, etchings, and watercolors, and folk arts of the Mexican Indian were displayed.

**El Salvador.**—The smallest country of the Western Hemisphere imported the "Sonora" Marimba Band for entertainment while coffee imported from that country was served. Mural and native handicrafts added to the tropical atmosphere.

**Guatemala.**—Designed on Mayan lines, this pavilion was filled with the color of native costumes and handloomed textiles contributed by Guatemalan Indians.

**Panama.**—Rare old Indian jar works from the Harvard Museum and the National Museum of Panama, native costumes, and murals of typical Panamanian customs and scenery combined to tell the story of this little Central American country.

**Colombia.**—A modernized Spanish Colonial structure ornamented with wrought-iron grilled windows and gate, formed a picturesque back-

ground for the collections of modern hand-hammered silver, emeralds, and minerals of Colombia. The story of Colombian hand-picked coffee was also recounted in detail.

**Peru.**—In the form of an Incan temple, the Peruvian pavilion's exhibits traced the roots of modernity back to the ancient Inca civilization.

**Chile.**—The nitrate industry, for which Chile is famous, was depicted in photo-murals. Native art and examples of primitive jewelry of pre-Conquest inhabitants formed an interesting exhibit.

**Ecuador.**—Works of art dating back to the fifteenth century and still older archaeological specimens were featured. Ecuador artists were represented, including Salas and Mideros.

#### PACIFIC AREA GROUP

**Pacific House.**—This imposing cruciform structure was on an island surrounded by the Pacific Basin lagoons. In it were spectacular maps and displays dealing with problems of health, geography, and industrial evolution in the Pacific, as well as a Hall of Pacific Relations in which international commissions discussed issues of the hour.

**China.**—San Francisco's Chinatown assumed the obligation of providing \$1,250,000 for their exhibit when China was pressed for money to carry on her war. They reproduced a 3½-acre walled city of authentic Chinese architecture, a Chinese art exhibit, Der Ling Pavilion exhibiting effects of the late Empress Dowager of China, and the House of Melody with a troupe of Chinese actors.

**Japan.**—An elaborate feudal castle and detached Samurai house, was fabricated in Japan and shipped in sections to Treasure Island by agreement with labor unions. The \$500,000 display was set in typical Japanese gardens on the bank of a lagoon, and stresses transportation and communications, silk, arts and crafts, pearl culture, and tourism.

**French Indo-China.**—A two-story building in red, green, and gold, built in Saigon and housing a typical French colonial restaurant, was a fea-

ture in addition to varied and colorful exhibits.

**Johore.**—Replica of the "Johore Dewan," or council house, with a tourist display featuring big-game hunting.

**Hawaii.**—This pavilion was decked with feathers after Hawaiian tradition, and contained a theater in addition to industrial and scenic displays.

**Philippine Commonwealth.**—This pavilion of Spanish Colonial architecture had twin towers for displays, of arts, industry, orchids, tourism, and music.

**Australia.**—Pavilion featured the unusual flora and fauna of the Antipodes, plus sports and scenic beauties.

**New Zealand.**—The pavilion was fronted with the façade of a Maori house, containing a graphic story of offerings to the tourist, sportsman, and settler.

**Netherlands East Indies.**—The Javanese pavilion was fabricated in Batavia of native woods, intricately carved. Authentic Balinese dancers were a feature of the display, which also touches upon arts, crafts, and agriculture of the Spice Islands.

**Cavalcade of the Golden West.**—This "theme spectacle" portrayed four centuries of western United States history. A colored water-screen, 40 feet high, replaced a curtain across the 400-foot stage. Scenic effects were mounted on wheeled platforms, operated on rails. An "auditory perspective" sound system produced the music and voices of more than 200 speaking roles.

#### FOREIGN PAVILIONS

**France.**—The Fine Arts section of the French pavilion was devoted to the works of important French artists, sculptors, and authors. The Fashion salon displayed eighteenth century gowns lent by the Musée Carnavelet of Paris. Dedicated to travel, the third salon featured large mural-maps of France. In the Palais d'Elegance here were displayed the last word in women's styles, fresh from Paris. Around an oval French restaurant, were three bars—the "regular," the champagne, and the perfume bar.

**Italy.**—Dr. Alfio Susini, of the Royal University of Rome, designed and built the Italian Pavilion using Italian marble for the modern portico and interior. A dioramic display, designed by Signor Prampolini, pupil and friend of Marinetti, the father of futurism in art, pictured the outstanding regions of Italy.

**Brazil.**—Robert B. Howard's colorful murals effectively set off the modern lines of the Brazilian Pavilion designed by Gardner Dailey. The semi-precious stones of Brazil, as well as commercial products, were featured, with special emphasis placed on the coffee industry's exhibit.

**Argentina.**—The functionally designed Argentina Pavilion, with its rooms arranged in an S curve and accentuated by glass brick walls, solid glass doors, and "barrel" skylights, previewed the latest developments in modern architecture.

**Norway.**—The Norwegian Shipowner's Association and other Norwegian shipping firms were responsible for Norway's participation with a ski and sports lodge built in old-style Norwegian architecture. The main sod-roofed building was constructed entirely of hand-hewn logs, interlocked and without nails.

**International Hall.**—Denmark, Sweden, Portugal, Netherlands, and Czecho-Slovakia, European countries not represented by individual pavilions, had their headquarters in this building.

## COMMERCIAL AND TOPICAL EXHIBITS

**Hall of Homes and Gardens.**—This glorification of the American home was supplemented by model homes in an adjacent area.

**Hall of Mines, Metals and Machinery** was featured by "Treasure Mountain," a huge model that presented in operating detail a 2,500-mile trip through the western mining country, with many flanking displays by individual companies.

**Hall of Electricity and Communication** contained electricity's newest wonders, from television to forced crop production, dramatized by the leading firms of the industry.

**Vacationland.**—"Where to go and how to get there" in the Western Wonderland, 1,000,000 square miles of playground brought under one roof in dramatized sample form, by firms allied with transportation and recreation.

**Hall of Science** is a spectacular report of progress by scientists in fields of chemistry, biology, physics, psychology, acoustics and medicine. America's ranking universities and laboratories collaborated.

**Hall of Foods and Beverages** contained displays of fine foods from everywhere, explained from production through processing and distribution to the consumer by foremost firms.

**Hall of Agriculture** was an interpretation of Western preeminence in the science of the soil, presented by the State of California.

## ATTENDANCE

The Golden Gate International Exposition opened on Feb. 18 and ran for 254 days, finally closing on Oct. 29. It had been originally planned to keep the fair open until Dec. 2.

The total attendance was 10,496,203. The opening day attendance was 128,697 and the largest paid attendance 187,730 which was recorded on Sunday, Oct. 8.

The Exposition's "summer reopening" and reorganization in June did much to stimulate attendance. At that time, Charles H. Strub, formerly connected with Santa Anita Park, became managing director of the Exposition, and under his leadership the entertainment programs reached a new height in popularity.

## FINANCIAL SUMMARY

Approximately \$50,000,000 was invested in the Exposition, \$20,000,000 of which was represented by the construction of Treasure Island. On Oct. 20, the Board of Managers of the Exposition admitted the Fair's indebtedness totaled \$4,606,141, and papers were filed in the United States Court under a special section of the emergency bankruptcy law.

## CHRONOLOGY OF PUBLIC AFFAIRS, 1939

### PLANS FOR 1940

On Dec. 22, Burton J. Wyman, Federal Court Referee, approved a plan submitted by Randall Larson, attorney for the San Francisco Bay Exposition Corporation, that met with the approval of all concerned. Under this plan the Fair is scheduled to re-open Saturday, May 25, 1940 and close four months later on Sun-

day, Sept. 29.

The agreement is comparatively simple. Briefly, it was stated that any creditor wishing to do so, might withdraw from the Exposition by accepting settlement on the basis of the Fair's financial status when it closed. The others would continue, and their accounts would be closed at the end of the Exposition's 1940 season.

## CHRONOLOGY OF PUBLIC AFFAIRS, 1939

(From *The New York Times*)

### JANUARY

- 4—Roosevelt in message to Congress calls for increased armaments.
- 5—Felix Frankfurter nominated to Supreme Court. President Roosevelt proposes \$9,000,000,000 budget.
- 7—Thomas J. Mooney set free by Governor Olson of California.

### FEBRUARY

- 7—President Roosevelt asks Congress to restore \$150,000,000 cut from relief appropriation.
- 14—Justice Brandeis retires from Supreme Court.
- 18—San Francisco opens its World's Fair.
- 25—James J. Hines convicted in New York policy racket trial.
- 27—Supreme Court outlaws sit-down strikes.

### MARCH

- 20—William O. Douglas nominated to Supreme Court.
- 27—Supreme Court authorizes state income tax on Federal salaries, reversing 68-year-old precedent. House to investigate WPA.

### APRIL

- 3—Congress investigators approve TVA.
- 17—Supreme Court upholds new AAA.
- 25—President Roosevelt acts under reorganization law to set up three new coordinating executive agencies.
- 30—New York World's Fair opens.

### MAY

- 6—Soft coal production virtually halted by miners' strike.
- 23—American submarine *Squalus* sinks off New Hampshire coast, 26 lives lost.

### JUNE

- 3—Federal Judge Martin T. Manton convicted of selling justice.
- 8—King and Queen of England arrive in Washington.
- 26—Earl K. Long sworn in as Louisiana's Governor after resignation of Richard W. Leche.
- 28—Regular air service to Europe begins.

### JULY

- 5—Senate continues President's dollar control power.
- 6—WPA workers strike against longer hours.
- 10—Paul V. McNutt, Philippine High Commissioner, named Federal Security Administrator. Deportation hearing of Harry Bridges, C.I.O. leader, begins.
- 26—United States denounces trade treaty with Japan; effective Jan. 26, 1940.

### AUGUST

- 2—President signs Hatch bill "to prevent pernicious political activity."
- 5—Seventy-sixth session of Congress adjourns after restricting WPA, defeating \$300,000,000 lending bill and \$800,000,000 housing bill.



## SEPTEMBER

19—Charles M. Schwab, steel master, dies at 77.

## OCTOBER

2—George Cardinal Mundelein of Chicago dies.

16—Governor Olson of California frees Warren K. Billings, convicted with Tom Mooney in 1916 bombing case.

## NOVEMBER

7—Ohio and California defeat old-age pension plans. Tammany stages comeback in New York City elections.

29—Fritz Kuhn, Bundesfuehrer, found guilty of forgery, grand larceny.

## DECEMBER

1—La Guardia Field, nation's largest airport, in operation in New York.

11—Supreme Court bans wire-tapping in Federal criminal cases. Open hearings on House investigation of NLRB begin.

29—Landis report absolves Harry Bridges of Communist membership and affiliation.

30—Charles Edison appointed Secretary of the Navy.

### POLITICAL EVENTS

(Since adjournment of Congress, Aug. 5, 1939)

Aug. 11—Senator Burke predicted President Roosevelt would lead a new party if the Democrats should nominate a conservative in 1940.

Aug. 17—Senator Van Nuys said 15 Democratic senators would oppose a third term for the President.

Aug. 23—Speaker Bankhead declared he would be willing to run for the Presidential nomination if backed by his own state.

Sept. 23—Alf M. Landon, Republican presidential nominee in 1936, called upon President Roosevelt to take the proposed repeal of the embargo on munitions out of politics by a definite declaration that he would not seek a third term.

Sept. 28—Chairman Hamilton of the Republican National Committee

disagreed with the President's suggestion for an "adjournment of partisanship" during the European crisis, opposing such a move on the eve of the 1940 campaign.

Nov. 8—California "ham-and-egg" proposal for "\$30 every Thursday" for elderly persons, and a proposal in Ohio to grant \$40 to \$50 a month to every retired citizen over 60, defeated in state elections.

Nov. 16—Senator Wheeler urged the Democratic party to develop unity for victory in 1940.

Nov. 19—President Roosevelt mocked third term talk in a speech at Hyde Park library cornerstone laying.

Nov. 22—Senator Taft, invading Iowa, said he considered the corn loan system "in the long run an unsound policy."

Nov. 28—President Roosevelt's interest in the 1940 Presidential campaign was reflected in a suggestion from White House sources at Warm Springs that the conventions of both major parties be held at least a month and a half later than usual as an "economy" move; Chairman Hamilton commented that the Republicans needed no help from an "outside party."

Dec. 1—District Attorney Thomas E. Dewey formally announced his candidacy for the Republican Presidential nomination.

Dec. 6—Opening his campaign, Mr. Dewey declared that "defeatism" of the Roosevelt Administration was the greatest national enemy.

Dec. 9—Frank E. Gannett, Presidential aspirant, outlined a seven-point program: Mr. Dewey asserted the next President could and must balance the budget because "there is a bottom to every well."

Dec. 11—Senator Wheeler was advanced by Senator Johnson of Colorado as a "liberal" candidate who might make it unnecessary for "the President to run against his will in 1940."

Dec. 16—Vice President Garner formally announced his candidacy for the Presidency.

# COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

## PERIODICAL PUBLICATIONS

- |  |   |
|--|---|
| <i>American Mercury</i><br>570 Lexington Ave., New York City.  | <i>Forum and Century</i><br>570 Lexington Ave., New York City.            |
| <i>American Political Science Review</i><br>305 Harris Hall, Northwestern University, Evanston, Ill. | <i>Journal of Political Economy</i><br>5750 Ellis Ave., Chicago.          |
| <i>American Spectator</i><br>683 Broadway, New York City.  | <i>Nation</i><br>20 Vesey Street, New York City.                          |
| <i>Commonweal</i><br>386 Fourth Ave., New York City.   | <i>New Republic</i><br>40 East 49th Street, New York City.                |
| <i>Congressional Digest</i><br>2131 LeRoy Place, Washington, D.C.                                    | <i>News-Week</i><br>1270 Sixth Ave., New York City.                       |
| <i>Current History Magazine</i><br>63 Park Row, New York City.                                       | <i>Political Science Quarterly</i><br>Columbia University, New York City. |
| <i>Events</i><br>1133 Broadway, New York City.   | <i>Polity</i><br>105 West Monroe Street, Chicago.                         |
|  | <i>Time</i><br>350 East 22nd. Street, Chicago.                            |

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

### GENERAL

- |  |   |
|--|---|
| AMERICAN ANTIQUARIAN SOCIETY, Worcester, Mass.   | St., W. of Broadway, New York City.   |
| AMERICAN BAPTIST HISTORICAL SOCIETY, Upland Avenue, Chester, Pa.                                   | HOLLAND SOCIETY OF NEW YORK, 90 West Street, New York City.                               |
| AMERICAN CATHOLIC HISTORICAL ASSOCIATION, Catholic University, Brookland Station, Washington, D.C. | HUGUENOT SOCIETY OF AMERICA, 2 West 45th Street, New York City.                           |
| AMERICAN HISTORICAL ASSN., 740 Fifteenth St., N.W., Washington, D.C.                               | METHODIST HISTORICAL SOCIETY, 150 Fifth Ave., New York City.                              |
| AMERICAN IRISH HISTORICAL SOCIETY, 132 East 16th St., New York City.                               | MISSISSIPPI VALLEY HISTORICAL ASSN., Cedar Rapids, Iowa.                                  |
| AMERICAN JEWISH HISTORICAL SOCIETY, 3080 Broadway, New York City.                                  | NEW ENGLAND HISTORIC GENEALOGICAL SOCIETY, 9 Ashburton Place, Boston, Mass.               |
| AMERICAN NUMISMATIC SOCIETY, 156th Street at Broadway, New York City.                              | PRESBYTERIAN HISTORICAL SOCIETY, 520 Witherspoon Building, Philadelphia, Pa.              |
| AMERICAN SCENIC AND HISTORIC PRESERVATION SOCIETY, 287 Convent Avenue, New York City.              | PROPORTIONAL REPRESENTATION LEAGUE, 309 East 34th Street, New York City.                  |
| AMERICAN SOCIETY OF CHURCH HISTORY, 5757 University Ave., Chicago, Ill.                            | SOCIETY FOR THE PRESERVATION OF NEW ENGLAND ANTIQUITIES, 141 Cambridge St., Boston, Mass. |
| CANADIAN HISTORICAL ASSN., Ottawa, Canada.   | STEBEN SOCIETY OF AMERICA, 369 Lexington Ave., New York City.                             |
| FREETHINKERS OF AMERICA INC., 317 East 34th Street, New York City.                                 | THOMAS PAINE NATIONAL HISTORICAL ASSN., North Ave., New Rochelle, N.Y.                    |
| HISPANIC SOCIETY OF AMERICA, 156th   | UNITED STATES CATHOLIC HISTORICAL   |

## I. AMERICAN POLITICAL HISTORY

- |  |  |
|--|--|
| SOCIETY, 346 Convent Ave., New York City.  | LEAGUE FOR INDUSTRIAL DEMOCRACY, 112 E. 19th Street, New York City.                          |
| WOODROW WILSON FOUNDATION, 8 West 40th Street, New York City.                              | NATIONAL LEAGUE OF WOMEN VOTERS, 726 Jackson Place, Washington, D.C.                         |
| <b>POLITICAL</b>   | NATIONAL MUNICIPAL LEAGUE, 309 E. 34th Street, New York City.                                |
| ACADEMY OF POLITICAL SCIENCE, Morningside Hgts., New York City.                            | WOMEN'S NATIONAL DEMOCRATIC CLUB INC., Hotel Alamac 71st Street and Broadway, New York City. |
| AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE, 3457 Walnut St., Philadelphia, Pa.       | WOMEN'S NATIONAL REPUBLICAN CLUB, 3 West 51st Street, New York City.                         |
| AMERICAN POLITICAL SCIENCE ASSN., 305 Harris Hall, Northwestern University, Evanston, Ill. |  |

## DIVISION II

# INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

### THE UNITED STATES AND EUROPE

BY DAVID H. POPPER

FOREIGN POLICY ASSOCIATION

#### PRELUDE TO WAR

In the first eight months of the year 1939 Europe moved onward from Munich toward Armageddon, while the United States, observing the trend, engaged in acrimonious debate on the question whether it should use its power to halt the descent to war. By January 1939, the feeling of relief that war had been avoided over the Czech crisis in the preceding September had given way to disgust at the results of "appeasement" in Europe, a sentiment fortified by the German anti-Jewish excesses of November 1938 and the new Italian colonial demands on France in the same month. The psychological impact of the fascist war of nerves was not confined to the European powers against which it was primarily directed. Here in the United States, a growing fear of the consequences of Nazi domination in Europe became apparent, together with a determination to prevent their spread to the Western Hemisphere. The country was far from united on the means to be employed to bolster the democratic form of government and the cause of liberalism and order in world affairs. But the need for some action, whether limited to preservation of our own security or extended to include assistance to Britain and France, was universally admitted.

#### DEVELOPMENT OF AMERICAN POLICY

Both objectives were included, at least by implication, in a broad re-

definition of American foreign policy contained in President Roosevelt's message to Congress on Jan. 4, 1939. Mr. Roosevelt called attention to the prevalence of undeclared wars and aggression in the outside world and emphasized their challenge to religion, democracy, and international good faith. The United States, he declared, did not propose to let the "new philosophies of force" invade the Western Hemisphere. So long as international lawlessness supplanted the settlement of international disputes by agreement, this country would have to look to its own defenses. God-fearing, law-abiding democracies like ourselves might rightly decline to intervene by arms to prevent acts of aggression, but that did not mean that we must ignore them. There were "many methods short of war, but stronger and more effective than mere words, of bringing home to aggressor governments the aggregate sentiments of our own people." At the very least, we should "avoid any action, or lack of action," which would encourage or build up an aggressor.

In these words lay the key to the Roosevelt Administration's foreign policy during the entire year. Concretely that policy rested on four basic convictions: (1) that there was a grave danger of general war in Europe; (2) that the vital interests of this country would be jeopardized if war came; (3) that the best, perhaps the only, way to keep America



## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

out of war, was to prevent its outbreak; and (4) that the most effective method of prevention was to convince potential aggressors that they would have to reckon with the economic and financial influence of the United States if they actually broke the peace. Isolationists strongly denied all but the first of these points. Throughout the year, however, they gave ground slowly and permitted the Administration to adopt an increasingly positive tone in its dealings both with the European powers and with Japan.

### TREND OF EVENTS IN EUROPE

**Spain.**—Meanwhile the European scene featured a succession of crises in which the influence of the United States played a role of varying importance. From January through March the Anglo-French policy of appeasement was severely tested by events in Spain, where large Italian and German forces, as was later admitted in Rome and Berlin, aided Franco in snuffing out the Loyalist resistance. A momentous diplomatic visit of Prime Minister Neville Chamberlain and Foreign Secretary Lord Halifax to Rome on Jan. 11-13 did nothing to loosen the ties between the two members of the Axis. On Jan. 26 Barcelona fell. Slowly the Negrin Government collapsed. On Feb. 27 Britain and France carried their "non-intervention" policy to its logical conclusion by revealing their decision to recognize the Franco régime, only to discover that their pusillanimous policy would not automatically assure them a privileged position in fascist Spain any more than in other fascist states. By April 1, after 32 months of sanguinary conflict, the war was over. On that date the United States recognized the Nationalist Government and immediately lifted the arms embargo to which it had steadfastly clung despite the obvious consequences.

**Czecho-Slovakia, Poland, and the Balkans.**—But the shock of events in Spain was completely overshadowed by Hitler's sudden destruction of Czecho-Slovakia on March 15. One day after the lightning invasion of

German troops, Bohemia and Moravia had been declared German territory; Slovakia had become a satellite state; and Hungary had conquered Ruthenia. On March 23 Lithuania was intimidated into surrendering the little Baltic district of Memel to the Nazis. Rumania hastened to sign a far-reaching economic agreement with the Reich. Poland, flanked on three sides by a menacing German neighbor, looked to its defenses. Taking advantage of the demoralized state of mind among the *status quo* powers, Mussolini, on April 7, invaded Albania and converted his virtual protectorate over King Zog's small domain into direct rule under the Italian crown. Yugoslavia, like Poland and France, was now hemmed in by anti-Comintern powers, and Italy had placed its troops on the Greek border within reach of the Aegean and even of the Dardanelles.

**France.**—Here, however, the rapid march of the fascist states was temporarily halted. More directly than ever before, they were threatening the vital interests of Britain and France; and the two powers had determined to call a halt to further fascist incursions. Both had been straining every nerve to speed their rearmament in silent recognition that the Munich "peace for our time" was no more than a hollow mockery. Despite the blustering demands of Il Duce and threatening Italian troop concentrations in Libya, France rallied to a man behind Premier Edouard Daladier when he refused to yield "a foot of our land" in Tunisia or Djibouti, or "one of our rights" in the Suez Canal management or wherever else Italy's envious eyes might fall.

**Great Britain.**—Similarly, British sentiment hardened against Germany. That Hitler's demands were by no means limited to eastern Europe and the Soviet Union, but embraced the overseas imperial sphere as well, was indicated by the Fuehrer's speech of Jan. 30, in which he put forth Germany's claims to colonies and world trade. On March 8 British War Minister Leslie Hore-Belisha an-

## THE UNITED STATES AND EUROPE

nounced completion of British plans to send to France in an emergency an Expeditionary Force of 19 divisions, comprising almost 300,000 men, as compared with five divisions of less than 100,000 in August 1914. The occupation of Prague provided the signal for Britain's *volte face*. On March 31 Prime Minister Chamberlain, in sharp contrast to his assent to the sacrifice of Czecho-Slovakia a half year earlier, pledged British support to Poland if Warsaw should find it necessary to resist a threat to its independence. Within two months Anglo-French guarantees had been extended to Greece, Rumania, and Turkey, while negotiations were under way for an Anglo-Soviet pact.

**The Polish Climax.**—With the commencement of this "encirclement" drive, the battle lines for the conflict became more clearly drawn. Poland, heartened by the support of the democracies, refused to abandon its position in Danzig or to grant Germany extraterritorial privileges in the Polish Corridor for construction of a railway and a highway between East Prussia and the Reich. Hitler on April 28 denounced the Anglo-German naval agreement of 1935 and his ten-year non-aggression pact with Poland signed in 1934. On May 22 Germany and Italy struck hands in a formal military alliance. Through the spring and summer, negotiations between Britain and the U.S.S.R. dragged on uneventfully. These were rendered fruitless by mutual distrust and Soviet demands for strategic advantages infringing on the independence of the Baltic states. While they continued, however, both sides prepared for the approaching showdown. The sudden conclusion of the Soviet-German non-aggression pact of Aug. 23, which the Nazis had thought would take the heart out of Anglo-French resistance, merely solidified opposition to the opportunistic tactics of Stalin and Hitler in all the democracies. Thoroughly weary of recurrent crises, both Britain and France refused to succumb to the war of nerves. Germany and the Allies, supporting Poland, had reached an impasse; Hitler emerged from it by or-

dering the invasion of Poland on Sept. 1. Two days later London and Paris were at war with Germany. Europe's ideological and imperialistic conflicts had burst once more as Europe, for the second time in a quarter century, resorted to the sword.

### AMERICAN MEASURES "SHORT OF WAR"

**Sale of Bombing Planes to the French.**—Although he was hampered by serious opposition in Congress and the nation, President Roosevelt did his utmost to warn the fascist powers of the possible consequences if they pushed the democracies to the wall. Whether or not he actually told the Senate Military Affairs Committee on Jan. 31 that America's frontier was in France or on the Rhine, the effect of his policy was, to some extent, to put it there. This was dramatically illustrated by the disclosure on Jan. 27 that the French Government was being given official assistance in the purchase of new-model Douglass bombing planes designed to meet the latest United States Army specifications. While it was quite within the law, the secrecy with which the testing and purchasing operations were being carried on, until shattered by a crash in which a French Government representative was injured, created an adverse impression throughout the country.

**Bolstering U. S. Diplomacy.**—On Feb. 3 the President heatedly but belatedly denied the "Rhine frontier" story. He did not, however, yield on the essential point at issue. Senator Key Pittman, chairman of the Senate Foreign Relations Committee, issued in Mr. Roosevelt's name a four-point definition of American policy vague and innocuous enough to win universal sympathy. But at the same time he succinctly remarked: "The only thing in my opinion that could prevent war in Europe, and the possibility of its extension to the United States in the future, would be such an equal balancing of military power that neither side to a controversy would be willing to undertake the chance of a defeat."

It was in the light of this statement

## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

that many discriminating observers chose to interpret the President's extreme preoccupation with American defense measures. The immediate danger of an attack on this country was for all practical purposes nonexistent, but larger forces were deemed necessary to support our diplomacy in its opposition to the new, dynamic imperial powers rising in Europe and the Orient. The President's budget message of Jan. 5 requested about \$300,000,000 more than the \$1,100,000,000 appropriation for the fiscal year ended June 30, 1939.

**Defense Expansion.**—Far more important, however, were his special supplementary recommendations on the armed forces, presented to Congress later in the month. The executive demand for \$300,000,000 to raise the Army Air Corps' strength from an authorized, but far from attained, figure of 2,320 planes to 6,000 symbolized the United States' determination to remain among the front rank in air strength. Together with the 3,000 authorized naval planes, the new program was destined to give this country upwards of 8,500 craft in all by the middle of 1941. (Under a plan first published in November 1939 the naval authorization was slated to be doubled.) As for land defenses, the Army was voted \$110,000,000 to complete the equipment of an "initial protective force" of 400,000 regular and National Guard troops with all the most important instruments of modern warfare. And the increasing weight of our naval power was symbolized by the fact that eight capital ships were under construction, two of them 45,000-ton vessels, while naval air facilities were strengthened in the Caribbean area.

The purpose of these accelerated armament preparations was said to be hemispheric defense. On April 14, for example, President Roosevelt told the governing board of the Pan American Union in Washington that we, the nations of the Western Hemisphere, would defend our "American peace . . . to the fullest extent of our strength, matching force to force if any attempt were made to subvert our institutions, or to impair the in-

dependence of any one of our group." Accordingly, Army officials made plans for "forward defense" of American continental territory, by destruction of any enemy bases of our own. The Navy held maneuvers in the Caribbean area in the early months of the year to test not only the defenses of the Panama Canal but also the possibility of intercepting any hostile moves across the South Atlantic by sea.

**Brazilian Agreements.**—Defense of the Americas against fascist penetration continued on the political front as well. Still somewhat concerned over German influence in Brazil, the United States in March concluded a set of agreements with Oswaldo Aranha, the Brazilian minister of foreign affairs, authorizing sizeable loans and credits to the Brazilian Government in return for more favorable treatment for American traders and investors in Brazilian commercial life. Distinguished political and military officials voyaged north and south to cement Pan American ties of good feeling. Later, credits were also granted to Nicaragua and Paraguay for financial and developmental purposes. Each of these steps was hailed as a counter-move in the endeavor to checkmate German penetration in this hemisphere. In a negative sense, the State Department's obvious unwillingness to force the Mexican oil dispute to a crisis was patently motivated by the same purposes.

### REACTION TO EUROPEAN POLITICAL CRISES

**Condemnation of Czech Seizure.**—There was little opposition to the implementation of the Administration's Good Neighbor policy. But the Nazi march on Prague posed more sharply than ever the question of what direct steps the country might take to make its influence more strongly felt in Europe. In the first instance Washington expressed sharp disapproval of the German move, mobilizing public opinion on the subject. On March 17, Under Secretary of State Sumner Welles reiterated the United States' support of orderly processes in international relations and went on to



utter a significant statement of official opinion. "This Government, founded upon and dedicated to the principles of human liberty and of democracy," he declared, "can not refrain from making known this country's condemnation of the acts which have resulted in the temporary extinguishment of the liberties of a free and independent people with whom, from the day when the Republic of Czecho-Slovakia attained its independence, the people of the United States have maintained specially close and friendly relations." The word "temporary" deserves particular attention for its clear implications.

**Trade Restrictions.**—The American reaction was not limited to words alone. A note to Berlin, dispatched on March 20, declined to recognize the legitimacy of the occupation. But this procedure did not prevent the Treasury from announcing that, from March 18 onward, articles and materials imported into the United States from Czecho-Slovakia would no longer enter this country under the lower tariffs fixed in the trade agreement which had been signed with the Prague government. Instead, they were to receive the same treatment accorded other German goods—to be denied, in other words, the benefits of any of the reduced duties accorded in the reciprocal treaties negotiated by Secretary Hull.

On the same day, moreover, the Treasury announced that countervailing duties up to 25 per cent, in addition to normal tariffs, would be levied against goods whose export had been subsidized by the Reich. In Washington it was stoutly maintained that this was a purely commercial measure designed only to protect American producers against foreign dumping. Yet the measure represented a severe blow to what still remained of German-American trade, and its timing at least was clearly political in intent. Unofficial observers forthwith began to study the other punitive provisions contained in American tariff legislation, which might be turned against aggressor states in the future. In July the Administration actually did apply

countervailing duties against certain types of Italian merchandise, notably silk goods, but this measure seems to have been devoid of anything beyond commercial significance.

**Italy and Albania.**—Nevertheless the Administration did not remain silent in the face of Italian aggression. On April 8 Secretary of State Cordell Hull declared that the "forcible and violent invasion of Albania" was "unquestionably an additional threat to the peace of the world." Since it destroyed confidence and undermined economic stability in every country in the world, he continued, it inevitably affected our own welfare. While this country later found it impossible to maintain its legation in Tirana, it has not explicitly recognized the Italian conquest.

**President's Peace Moves.**—All these diplomatic moves were predicated on the belief that the United States had a stake in the preservation of European peace. The same thesis underlay the President's audacious peace appeal to Hitler and Mussolini, delivered on April 14. In this case Mr. Roosevelt attempted, by an unexpected initiative, to disorganize an apparent drive of the Axis powers to force another crisis on the Anglo-French bloc. There is indeed some evidence that he succeeded in disrupting the fascist time-table. Citing the harmful effects of constant world tension, the President urged the two dictators to make "a frank statement relating to the present and future policy of governments" to him as a mediator not involved in European controversies. If they would give him assurance that their armies would not for at least ten years invade the possessions of 30 states or political subdivisions in Europe and the Mediterranean area, he declared, he would seek reciprocal assurances from the other nations and inaugurate international discussions looking toward the reestablishment of a better world order. In the search for disarmament and freer world trade the United States would participate, but it would not engage in political conversations which concerned countries directly interested.



## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

The message was an ingenious step, but not without its weaknesses. In the first place, Mr. Roosevelt, after his increasingly open attacks on the fascist dictatorships, was scarcely in a position to put himself forward as an impartial mediator. In the second, the United States could not very logically tax other nations with their failure to make political readjustments while it steadfastly refused, in deference to its own isolationist sentiment, to participate in or accept any responsibility for such adjustments. It was not surprising, therefore, that Mussolini, in a speech on April 20, ridiculed all "messianic" messages; denied any aggressive intent; refused to guarantee existing frontiers anywhere; and protested against placing the Axis "on the seat of the accused."

This blast was only a foretaste of the oratorical field day enjoyed by Adolf Hitler on April 28, when the Fuehrer scornfully rejected every one of the American suggestions. Germany, he stated, would give assurances to threatened nations only on a bilateral and reciprocal basis. It could not disarm in the cruel world of power politics, nor could it place its trust in international economic conferences which had always proved abortive. Germany, its leader indicated, would continue its "bloodless" methods of aggrandizement; President Roosevelt, for his part, might better confine his efforts to defense of the American continent, which the Reich had no intention of attacking, and to the problem of unemployment at home, a problem no longer pressing in Germany.

Thus the positive results of the President's demarche were negligible, although it did provide a breathing spell for the hard-pressed Western democracies. In the ensuing months, while both sides prepared for the dénouement, the United States on a number of occasions made its sympathies abundantly clear. Despite fears of isolationist wrath, the visit of the British King and Queen to the United States in June met with a highly favorable popular reaction. On June 23 the two countries concluded

at London a barter deal providing for the exchange of 600,000 bales of cotton for about 80,000 tons of rubber, both commodities to be stored as a war reserve. And on April 1 the United States had signed with Turkey, its twenty-first reciprocal trade agreement, aiding a member of the anti-fascist bloc.

### THE NEUTRALITY ACT AND EUROPE

In the most important matter of all, however, the President's attempt to sway the anti-interventionist forces in Congress had met with no success prior to the outbreak of war. Notwithstanding the implications of the "measures short of war" policy, the Administration allowed nearly five months of the regular Congressional session of 1939 to pass before taking the initiative in an effort to revise the existing neutrality law. Meanwhile, on May 1, the "cash and carry" clause adopted for a trial period of two years in the 1937 act expired without having been put to the test.

It was only on May 27 that the State Department offered a guiding hand to the confused Congressional committees. In a letter of that date, Secretary Hull published identical letters to Senator Pittman and Representative Bloom, outlining an Administration program clearly based on a desire to assist the Allies in war while minimizing such friction with belligerents as had been experienced between 1914 and 1917. The Secretary requested repeal of the arms embargo; a ban on the entry of American ships into combat areas; a provision for transfer of title before goods destined for belligerents were exported; continuance of existing barriers against loans and credits to nations at war; regulation of collection of funds for the use of belligerents; and preservation of the existing supervision of the arms traffic by the National Munitions Control Board. Obviously, under such legislation, the Allies could purchase military aircraft—their greatest single need—from the United States as long as their resources convertible into American dollars held out. Enjoying con-

## THE WAR AND AMERICAN NEUTRALITY

trol of the seas and assets sufficient to finance their dealings here for several years, they could not but benefit from enactment of the proposal. Partly because of bad management in Congress however, action on the Administration's neutrality bill had not been completed when that body adjourned on Aug. 5.

### THE EVE OF WAR

Such was the situation in the crucial days of August 1939. In the last stages the President was active in an attempt to prevent a rupture, but the time had passed for words from outside the conflict. On Aug. 24 Mr. Roosevelt, referring back to his message of April 14, urged Germany and Poland to refrain from hostilities and

to seek a solution for their difficulties by peaceful means. He intimated that the United States would be happy to mediate in the dispute. On Aug. 23 he had suggested to the King of Italy that he, too, assist in an attempt to keep the peace. The Polish Government, naturally, was disposed to accept a pacific settlement; but despite a second appeal from Mr. Roosevelt on Aug. 25, Herr Hitler did not respond until Aug. 31 and then merely transmitted a curt statement that, due to the attitude of the Polish Government, the German peace moves had failed. The belligerents did, however, respond favorably to an American appeal that they refrain from the bombardment of civilian populations from the air.

## THE WAR AND AMERICAN NEUTRALITY

By DAVID H. POPPER

FOREIGN POLICY ASSOCIATION

### CHARACTER OF THE WAR

The rumble of marching armies and the whine of diving military planes confronted the United States with a new set of problems. Hitherto it had striven, within limits, to prevent the outbreak of war; now it was concerned to remain aloof from the conflict through positive measures of its own and efforts to restore peace. Before much could be accomplished in either direction, Poland had been overrun by the terribly efficient German war machine. In little more than three weeks after crossing the border, the troops of Adolf Hitler had virtually completed their advance to the East, taking an estimated 450,000 prisoners. After preliminary operations between the Maginot and Siegfried lines in the West, the war in that quarter assumed an immobile character. Only the slow attrition of mines and submarines against merchant shipping, an occasional naval encounter, and sporadic reconnaissance flights or air raids on military objectives revealed the grim character of the struggle.

### PROCLAIMING AMERICAN NEUTRALITY

On Sept. 3, when Great Britain and France declared war on Germany, the United States acted with dispatch. That evening the President recalled to the American people the past efforts of this Government in the cause of peace and indicated that those efforts would continue. Urging resistance to mere rumor or generality, Mr. Roosevelt pleaded for sober restraint and national unity to keep war out of the Americas. "This nation," he significantly remarked, "will remain a neutral nation, but I can not ask that every American remain neutral in thought as well. Even a neutral has a right to take account of facts. Even a neutral can not be asked to close his mind or his conscience." This veiled acknowledgment of public sympathy for the Allies contrasted sharply with President Wilson's appeal in 1914 for neutrality in thought as well as in deed. American opinion was far more partial to Britain and France in 1939 than it had been 25 years earlier. On the

## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

other hand this factor was probably more than counterbalanced by wide knowledge of the historical forces impelling the United States toward participation in any general war, and by a determination to avoid repetition of the experiences of a quarter of a century before. The policy of the United States, to be completely successful, would have to preserve a technical neutrality while still extending important assistance to the favored belligerents.

At the outset, however, the President could only apply the principles of legal neutrality as established under international law and the American Neutrality Act of 1937. To stress the distinction between these two guides to national behavior, the executive issued on Sept. 5 two separate proclamations, several hours apart. The first detailed the traditional regulations customarily applied by the United States since 1793 to safeguard its impartiality and abstention from the conflict. By emphasizing the rules of international law the President served notice that the United States had not abandoned any of its traditional neutral rights, a point explicitly noted in a formal statement of Secretary of State Hull on Sept. 14.

The second proclamation faithfully invoked the provisions of the Neutrality Act, bringing into force the arms embargo and the ban on loans and credits, except ordinary short-term obligations, to the nations engaged in the war. Exports of aircraft to Britain and France, which had been unusually great for a number of months, ceased entirely for the time being. Prices of many other commodities and of many securities, however, rose sharply in expectation of a war boom. When this did not materialize the markets quieted, although industrial production in the United States remained at a high level. War orders would obviously be confined within relatively narrow limits as long as the pace of the war remained slow and the Allies were able to husband their resources by making purchases from within their own empires and from neutral states which would grant the most favorable exchange facilities.

By the end of 1939, indeed, many American agricultural producers were beginning to realize that diversion of Allied purchases from the United States to other markets, in conjunction with the economic blockade of the Reich, would leave them with large surpluses on their hands.

### BRINGING HOME AMERICAN NATIONALS

But in September more immediate problems engaged the attention of the Administration. With the cooperation of American steamship services, over 50,000 Americans were transported from Europe to American and Canadian ports, although the anticipated destruction from the air failed to materialize. Only one mishap attended this mass migration. Less than 24 hours after Britain had declared war, the *Athenia*, a British vessel carrying 1,400 homeward-bound Canadians and Americans, was sunk, apparently by torpedo attack, with a loss of 30 American lives. The coolness demonstrated by the American public in connection with the incident constituted a hopeful augury for its self-restraint in the future.

### DEFENSE MEASURES

At the same time the country looked to its defenses in an insecure world. Under a "proclamation of national emergency" issued on Sept. 8, President Roosevelt declared that "a national emergency exists in connection with and to the extent necessary for the proper observance, safeguarding, and enforcing of the neutrality of the United States and the strengthening of our national defense within the limits of peace-time authorizations." By virtue of the so-called Espionage Act of June 15, 1917, the President thus secured broad powers over all vessels in American waters—and on Sept. 15 he declared at a press conference that American "territorial waters extended as far as the interests of the United States required." Furthermore, his emergency powers were cited as authority for an increase in strength of the Regular Army to 227,000 men; of the National Guard to 235,000; of the Navy to



## THE WAR AND AMERICAN NEUTRALITY

145,000, and the Marine Corps to 25,000.

### REVISION OF NEUTRALITY ACT

Having made these immediate arrangements, Mr. Roosevelt called a special session of Congress for Sept. 21 to consider revision of the Neutrality Act. In his message to the legislators he declared that the arms embargo was "most vitally dangerous to American neutrality, American security, and American peace. . . . Repeal of the embargo and a return to international law are the crux of this issue." Besides urging repeal, the President also requested enactment of a law embodying the program formulated by Secretary Hull in his letter of May 27.

Isolationists at once rallied to defense of the arms embargo. They claimed, with much justice, that revision of the law after war had begun was an unneutral act, in as much as it was motivated by a desire to assist one side in the struggle. Stigmatizing the European conflict as a purely imperialist war from which the United States should remain aloof, they warned that shipment of airplanes and other munitions to the Allies would inevitably be followed by extension of credits and, perhaps, provision of man-power if needed in the future. On their side, Administration supporters insisted that any neutral was entitled to alter its domestic laws for the preservation of its own security and welfare and that revision of the act would give the Allies the same access to American war supplies as was enjoyed by Germany through the medium of its "neutral" Italian and Russian allies.

### COMBAT AREA CLOSED TO AMERICAN SHIPPING

Whatever the validity of the views of both sides, the nation's basic sympathy for the Allies proved the dominant factor. On Nov. 4, 1939 the President signed the revised Neutrality Act from which the arms embargo had been eliminated. The other provisions of the law, however, were more stringent than those of previous legislation. In particular, under the

clause dealing with war zones from which American shipping and citizens were barred, the President proclaimed the waters surrounding the British Isles, the Atlantic coast of France, and the Baltic a combat area closed to Americans. At the end of the year, this legislative device seemed effectively to have prevented destruction of American shipping. But it by no means eliminated controversies with the belligerents over maritime rights.

### DECLARATION OF PANAMA

At least one of these was induced by positive action of the American republics, designed to preserve the neutrality of this hemisphere. In accordance with the principles of the Good Neighbor policy and the "continental solidarity" provisions of the Declaration of Lima (Dec. 22, 1938), the foreign ministers of the American republics assembled at Panama City from Sept. 23 to Oct. 3 for consultation on measures to meet the problems raised by the European war. At the Panama Conference a general declaratory re-statement of neutral rights and duties was adopted, including one provision permitting armed merchantmen to visit American ports without being subjected to the stringent restrictions imposed on belligerent warships. This action, considered in conjunction with United States' ban on the entry of belligerent submarines into its harbors, obviously tipped the scales of maritime warfare in favor of the Allies.

Overshadowing the decision on armed merchantmen, however, was the adoption of the Declaration of Panama, approved Oct. 3. This important statement invoked the principle of self-protection in support of the "inherent right" of the American states to have the waters embracing normal inter-American maritime communications "free from the commission of any hostile act by any non-American belligerent." For this purpose the delegates charted what may be termed a neutral or safety zone extending an average distance of 300 miles from shore, from the south Canadian border to the Strait of Juan



## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

de Fuca. The American governments agreed to seek belligerent recognition of the zone through joint representations, while patrolling its waters, either individually or jointly, to collect information relating to hostile activities. For the time being at least, disregard of the Declaration was to be followed by nothing more serious than consultation among the American republics.

Naturally, none of the belligerents appeared eager to sacrifice the undoubted legal right to conduct naval operations outside the conventional three-mile limit of territorial waters. A number of incidents soon occurred which might be considered "hostile acts." Most dramatic of these, and most important, was the running naval battle of the German pocket battleship *Admiral Graf Spee* with three British cruisers, close to the Uruguayan coast, on Dec. 13. The German vessel took refuge in the harbor of Montevideo. Supported by a number of the adherents to the Declaration of Panama, the Uruguayan Government was able to resist both the German demand that the ship be permitted to remain in port until all repairs were completed and the British pressure to force it to leave within 24 hours. Uruguay acted in strict accordance with the thirteenth Hague Convention of 1907 in determining, after an official investigation, that 96 hours was sufficient time to render the vessel seaworthy and that it should leave on the expiration of that time limit.

On Dec. 17 the *Graf Spee* was scuttled by its crew in the estuary of the River Plate, since the German Government apparently decided not to permit its internment in harbor for the duration of the war nor to subject it to attack by Allied warships cruising outside the port. But the reverberations of the incident continued. Uruguay protested against a naval battle part of which was conducted within its territorial waters, and the American republics on Dec. 23 protested to France, Britain, and Germany against violation of the neutral zone. As the warring powers showed no disposition to limit the

area of their maritime operations, it was difficult to see what steps these republics might take to make their protest really effective.

### DEFENSE OF NEUTRAL RIGHTS

Other issues, too, raised the question of the extent to which belligerent exactions would prevail over the neutrals' desire to continue their normal trade and intercourse unmolested. Evidence that the United States would not abandon its traditional neutral rights, where they were not waived under our domestic statutes, was furnished by the complex legal tangle developing from the case of the American freighter *City of Flint*. The *Flint* was captured by a German cruiser, apparently on Oct. 9, 1939, while carrying to England a cargo of which over 50 per cent may well have been contraband of war. The captors put a prize crew aboard, stopped at Tromsø, Norway for water, and then, because of the difficulty of running the British blockade to reach German ports, put in at Murmansk on Oct. 23. After some suspicious disagreement over the facts, both Germans and Russians finally claimed that the purpose of this call was to repair damaged machinery. The vessel departed from Murmansk on Oct. 28. Meanwhile, the Germans appear to have concluded that retention of the prize was not worth an acrimonious dispute with the United States. Sailing the *City of Flint* into Haugesund, Norway, they provided the Norwegian authorities with an opportunity to seize and release the vessel.

The legal complications in this instance arose from differing interpretations of the thirteenth Hague Convention on the rights and duties of neutral powers in naval war, and from divergences in national practice. The United States had refused to accept Article 23 of the Convention authorizing neutral powers to permit prizes to enter their ports where they might be sequestered until the belligerent prize court had made its decision. Both Germany and Russia had adopted this article. The dispute might well have been settled without

## THE WAR AND AMERICAN NEUTRALITY

undue difficulty had the Soviet Union not vacillated in the explanation of its conduct and failed to supply information to the American Ambassador. The incident was closed when the ship was restored to the American crew, but it left in its wake a trail of bad feeling against the Moscow Government.

### THE QUESTION OF CONTRABAND SEARCH

In comparison with this single seizure, relatively little publicity was devoted to the diversion of American ships by the British and French to control ports within their territory where the vessels might be searched for contraband. By the end of the year, however, the Allies were faced with a rising tide of American irritation at the severity of some of their measures harming neutrals. On Dec. 9 the State Department protested against the British blockade of German exports, a measure not sanctioned by the classical precepts of international law. On Dec. 14 it expostulated against Britain's policy of forcing American vessels to enter combat areas or belligerent ports within the zone barred to them by the Neutrality Act for examination of their cargo. And on Dec. 27 it made vigorous representations against the censorship of mails bound for neutral destinations and carried by British or neutral vessels. The Allies, however, made no immediate move to satisfy the American grievances.

### THE SOVIET-FINNISH WAR

The concept of American neutrality, strained by events in Europe's larger war, was also severely tested by the Soviet invasion of Finland. As early as Oct. 11 President Roosevelt addressed a personal message to President Kalinin of the U.S.S.R. calling attention to the "long-standing and deep friendship which exists between the United States and Finland" and expressing the "earnest hope" that the Soviet Union would make no demands on Finland "which are inconsistent with the maintenance and development of amicable and peaceful relations between the two countries,

and the independence of each." The Soviet response was friendly but not entirely reassuring. The "sole aim" of the negotiations with the Finns, it was said, was "the strengthening of friendly cooperation between both countries in the cause of guaranteeing the security of the Soviet Union and Finland."

The opening of hostilities on Nov. 30 aroused profound indignation in the United States and many other countries. There was no doubt that President Roosevelt's emotions were shared by a large majority of the American public when, on Dec. 1, he characterized the aggression as "wanton disregard for law," and assured the Finns that their record had won for them the "respect and warm regard" of Americans. This sentiment had only been reinforced by Moscow's rejection of good offices tendered by the American Government, which Finland had accepted, and by news of the bombing of Helsinki. As a conscientious debtor and a democratic under-dog fighting against heavy odds, Finland was immediately accorded a measure of official and private assistance in this country. Many observers wondered, however, how the United States could consistently aid the Finns and yet remain aloof from Europe's other war. Aid for Finland must be limited, they held, if the maintenance of American neutrality was not to be jeopardized by an inconvenient precedent.

Despite this consideration, the country backed the Administration in its pro-Finnish policy. On Dec. 6 President Roosevelt instructed Secretary of the Treasury Morgenthau to hold the Finnish debt instalment of \$234,693, payable on Dec. 15, in a separate account with a view to subsequent Congressional action authorizing its return to Finland. Four days later Jesse Jones, Federal Loan Administrator, announced that the Reconstruction Finance Corporation and the Export-Import Bank were opening a \$10,000,000 credit for Finnish purchase of "agricultural surpluses and other civilian supplies" in the United States.

Earlier, on Dec. 2, the President had imposed a "moral embargo"

## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

against the sale of American airplanes and materials essential to their manufacture to nations guilty of unprovoked bombing of civilian populations. The moral prohibition was extended on Dec. 15 to include molybdenum and aluminum, and on Dec. 20, plans, plants, manufacturing rights, and technical information required for the production of high quality aviation gasoline. Although some Republican leaders clamored for a rupture of diplomatic relations with the Soviet Union, the Administration did not go so far. Its decision was believed to have been motivated by the consideration that no concrete advantage would result from such a step and possibly by the fear that the U.S.S.R. might thereby be thrown into the arms of Japan. The President also hesitated to suggest the extension of loans to the Finns for the purchase of much-needed war materials. This question was considered by Congress early in 1940.

### PREPARATION FOR PEACE

Even as it sought to remain out of war, the United States gave thought to the problems of the inevitable peace settlement. On Dec. 23 the President sent to Pope Pius XII a Christmas "message of greeting and of faith," suggesting that he would gladly send to Rome a "personal representative in order that our parallel endeavors for peace and the alleviation of suffering" might be assisted. Similar letters were sent to a Protestant and a Jewish leader in this country, and Myron C. Taylor, well known for his work in connection with the problem of German refugees, was appointed as the President's emissary. As the year closed, there was no prospect of an immediate cessation of hostilities; but the United States had emphasized by its action its hope that Europe might achieve peace on a surer and more humane foundation than it had enjoyed in the past.

## THE BRITISH KING AND QUEEN IN AMERICA

BY WILLIAM M. SCHUYLER

EDITOR, *The American Year Book*

For the first time in history the United States received in June, 1939 a visit from a reigning King and Queen of England in the persons of King George VI and Queen Elizabeth. The visit evoked remarkable official and popular enthusiasm based on Anglo-American-Canadian friendship and on the personalities of the King and Queen. The democratic friendliness of the King and the charming informality and beauty of the Queen together created a most favorable impression on all classes of American society.

The King and Queen arrived at Quebec on the *Empress of Australia* on May 17. The next day they started from Montreal on their long Canadian trans-continental trip which took them to Vancouver. On June 7 the rulers crossed into the United States at Niagara Falls where they were officially greeted by Secretary of State

Cordell Hull. On June 8 the royal party arrived in Washington and was met at the Union Station by the President and Mrs. Roosevelt, the British Ambassador and Lady Lindsay, and high officials of the Government.

The King and Queen were the house guests of the President at the White House. A garden party at the British Embassy gave the royal visitors an opportunity to meet a cross section of American officialdom and society and a representative section of British peoples temporarily or permanently resident in this country. During their brief sojourn in the capital, the King and Queen visited the Senate and House, Mount Vernon, and a housing project near Washington, and placed a wreath on the tomb of the Unknown Soldier at Arlington National Cemetery.

Leaving Washington by train the



## THE UNITED STATES AND LATIN AMERICA

night of June 9, the rulers arrived at Red Bank, N.J. the next morning, where they boarded an American destroyer and proceeded to the Battery in New York, where they landed. From that point they drove up the West Side Elevated Highway through New York City, traversed Central Park, and crossed the new Tri-Borough Bridge to the grounds of the New York World's Fair at Flushing Meadows. Several hours were spent at the Fair visiting the British Pavilion and other major attractions. Returning to the city their itinerary took them to Columbia University where they were received by President Nicholas Murray Butler who showed them the original charter granted by George II to King's College.

From Columbia the King and Queen journeyed by motor to Hyde Park House, the estate of Mrs. Sara Delano Roosevelt, the President's mother, whither the President and Mrs. Roosevelt had journeyed from Washington in time to receive their royal guests. A formal dinner was tendered to them that evening, and the next day an informal picnic was given on the Hyde Park grounds. On the night of June 11, the royal party boarded a special train at Hyde Park station and returned to Canada. After a brief visit paid to Nova Scotia, the King and Queen boarded the *Empress of Britain* at Halifax, stopped a day at St. John's, Newfoundland, and on June 15 sailed for England, arriving June 22.

## THE UNITED STATES AND LATIN AMERICA

BY GRAHAM STUART

PROFESSOR, STANFORD UNIVERSITY

### INTER-AMERICAN CONFERENCE AT PANAMA

It will be remembered that the year 1938 closed with the meeting of the Eighth International Conference of American States in Lima, Peru, which produced the now famous Declaration of American Solidarity. The delegates who subscribed to that doctrine little expected that in less than a year they would be called upon to give effect to its basic principles. Yet when on Sept. 3, 1939, Great Britain and France declared war on Germany a violent repercussion was felt in the Western Hemisphere. Argentina, Brazil, Chile, Paraguay, Panama, and the United States issued proclamations of neutrality forthwith, and President Roosevelt sounded out the principal Latin American States as to the advisability of a conference of their foreign ministers to put into operation the procedure of consultation as envisaged by the Declaration of Lima. The response was unanimously favorable, and it was agreed that the first Inter-American Consultative Conference of foreign minis-

ters or their representatives should meet in Panama City in September to take such action as seemed advisable to preserve the peace and security of the Western Hemisphere.

On Sept. 23 the representatives of the 21 republics assembled at Panama City. Undersecretary of State Sumner Welles who headed the delegation of the United States well expressed the sentiments of the conference when he characterized it as "a meeting of American neighbors to consider in a moment of grave emergency the peaceful measures which they may feel it wise to adopt either individually or jointly so as best to insure their national interests and the collective interests of the nations of the New World."

It was well realized by the United States that she would have to take the initiative in helping her neighbors to the south meet the economic and financial adjustments entailed by the war. Therefore at the outset Mr. Welles promised that no curtailment would occur in the regular transportation facilities of the shipping lines between the United States



## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

and its Latin American neighbors and if necessary they would be increased. Both short term and long term credits would be made available when the need was essential, and the United States would cooperate as far as possible to prevent fluctuations in exchange. But the most important problem to be faced was the security of the Western Hemisphere, and the United States proposed that a clear statement be made to the effect that the vital interests of the western world should not be jeopardized by belligerent activities in close proximity to its shores.

The conference went resolutely to work, and eight days after its first plenary session its work was completed. Dividing into three subcommittees on neutrality, economic cooperation, and maintenance of peace the representatives were able to reach unanimous agreement with a minimum of friction.

### COOPERATIVE NEUTRALITY

Realizing that the maintenance of the principles of international law was a fundamental essential of their program the Conference paid particular attention to the problem of neutrality. A general declaration of neutrality of the American republics was drawn up and adopted which not only included the generally accepted canons of conduct as to the rights and duties of neutrals but added several of special application to the Western Hemisphere. For example, it was agreed that the American republics might if it seemed advisable bring together and place in a single port under guard belligerent merchant vessels which had sought refuge in their waters. The transfer of the flag of a merchant vessel to that of any American republic was considered lawful providing the transfer was made in good faith and in American waters. Armed belligerent merchant vessels were not to be assimilated to war ships if the armament was clearly defensive, whereas belligerent submarines could be excluded from the territorial waters of a state.

To humanize warfare and to les-

sen the injuries to civilian populations the Conference supported the prohibition of the use of poisonous gases and the bombardment of open cities and non-fortified areas. It also registered opposition to placing of food and clothing intended for civilian populations upon contraband lists. The Conference rejected all methods for the solution of controversies between nations based on force, on the violation of treaties or on their unilateral abrogation, and undertook to protest against any warlike act not conforming to international law and the dictates of justice.

### 300-MILE PROTECTIVE ZONE

But the most original and drastic action of the Conference occurred in relation to the desire of the Conference to prevent the loss of life and the destruction of legitimate commercial interests of the nationals of the 21 republics through the carrying on of belligerent activities in waters adjacent to the shores of the American continent. By a joint resolution entitled the Declaration of Panama, the American Republics declared that so long as they are neutral they are as of inherent right entitled to have those waters adjacent to the American continents free from the commission of any hostile act by a non-American belligerent. The remarkable feature of the resolution was the promulgation of a protective zone approximately 300 miles wide encircling the continents south of Canadian territorial waters. It was agreed that joint representation should be made to belligerent governments to secure compliance with the provisions of the declaration and if necessary, the American republics would patrol either individually or collectively the entire zone specified.

The wording of this declaration is such that it would appear that no extension of the three-mile marginal sea was contemplated. The intent rather was an extension of the waters adjacent to the marginal sea as an essential means of self-protection. Such extensions are recognized in international law for the enforcement of a state's customs, navigation, sani-

tary and police regulations, fisheries, and particularly for a state's protection.

The crux of the problem, however, lay in its enforcement. Belligerent states fighting for their existence have invariably curtailed recognized rights of neutrals so it could hardly be expected that such an extreme extension of neutral rights would be accepted by mere *obiter dictu*. In fact, the British Admiralty very promptly gave it as their understanding that the zone was not an extension of territorial waters but merely a request made to the belligerents to limit their operations in this area. At the same time attention was called to the fact that when, in 1921, the United States obtained the privilege of search and seizure of liquor 12 miles off shore both the United States and Great Britain agreed to maintain the three-mile limit of territorial waters. Nor was it forgotten that both the British and French West Indies lay wholly within this protective zone.

When it is realized that Central and South America have a total coast on the Atlantic and Pacific of almost 15,000 miles with a total collective navy of some 70 vessels of war, the problem of policing becomes apparent. Nevertheless belligerents are loath to incur neutral enmity if it can be avoided, and since both Great Britain and France needed supplies which could only be obtained in the New World, a reasonable effort to avoid belligerent action within this zone might be expected.

With a view to studying and formulating recommendations with respect to the problems of neutrality the Conference authorized the Governing Board of the Pan-American Union to set up an Inter-American Neutrality Committee of seven experts on international law for the duration of the European War. This committee was to transmit its recommendations through the Pan-American Union to the governments of the American republics.

Nevertheless so many questions were raised regarding the 300-mile safety zone that the State Depart-

ment on Nov. 3 made available its interpretation. The Declaration of Panama was based upon two simple principles: first, that the European War should not jeopardize the safety nor interfere with normal relations of the 21 neutral American nations; second, that consequently belligerent activities which would endanger the security of the American republics should not take place within waters adjacent to the American continents. To carry out this policy provision is made for joint consultation as to measures to make it effective with no implication for the exercise of force.

As might have been expected violations of the safety zone by belligerent action were not long in materializing. On Dec. 13, the German warship, *Graf von Spee*, was engaged by three British naval vessels off the northeastern coast of Uruguay and was forced to take refuge in the harbor of Montevideo. When sufficient time to make necessary repairs was refused the captain of the *Graf Spee* took his vessel out and scuttled it within Uruguayan territorial waters. The British also violated the safety zone in sinking or detaining German vessels within its area.

To prevent further violations if possible, on Dec. 23, the 21 American republics acting in unity sent a written note to Great Britain, France, and Germany by the President of Panama protesting against the naval engagements within the American neutrality zone and advising them that consultations were being carried on looking toward penalizing future violations.

#### FINANCIAL AND ECONOMIC ADVISORY COMMITTEE

Another result of the Panama Conference was the setting up in Washington on Nov. 15 of an Inter-American Financial and Economic Advisory Committee consisting of one expert representing each of the American republics. The Committee's function was to consider means to establish a close cooperation between American republics to protect their economic and financial structure, maintain their fiscal equilibrium,

## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

safeguard the stability of their currencies, and develop their industries and commerce. Under Secretary of State Sumner Welles was designated as the representative of the United States.

### CULTURAL AND SCIENTIFIC RELATIONS

Various conferences between the American republics were held during 1939 covering many phases of scientific and cultural subjects. The Third Pan American Highway Conference was held in Santiago, Chile in January and a Pan American Sanitary Aviation Conference was held in Montevideo, Uruguay in February. In April the First Inter-American Travel Congress was held in San Francisco. The First Pan American Housing Conference was held in Buenos Aires October.

During October and November the Division of Cultural Relations of the Department of State held four conferences in Washington covering the fields of art, music, education and library work. A large and representative number of leaders in these fields whose interests were primarily concerned with the two Americas were brought together.

To further cultural relations arrangements were completed during the year by the Government of the United States to put into operation the exchange of professors and students between the United States and the other American republics in accordance with the convention signed Dec. 23, 1936 at the Buenos Aires Conference. To date the convention has been ratified by Brazil, Chile, Costa Rica, Dominican Republic, Guatemala, Haiti, Honduras, Nicaragua, Panama, Peru, Venezuela, and the United States.

### RELATIONS WITH MEXICO

The problem of the expropriated oil properties of American companies continued to vex the State Department throughout the year. Early in February Representative Kennedy of New York introduced a resolution into Congress asking the State Department to lay before the House of Representatives its full diplomatic

correspondence on Mexican expropriations. Subsequently discussions took place between representatives of the Mexican Government and of the petroleum companies in an endeavor to reach an equitable agreement, with the State Department making every effort to facilitate the negotiations. When a deadlock ensued, the United States Government proposed as a compromise that a joint board of directors be chosen to control the management and operation of new companies to operate the seized properties. When this suggestion failed no further action was taken until the decision of the Mexican Supreme Court was handed down Dec. 2.

The Supreme Court, by a unanimous vote, upheld the expropriation of the foreign oil companies as constitutional. It was held that expropriation was constitutional both as regards immovable and movable property. The companies might claim compensation for capital legitimately invested in Mexican soil but no compensation was allowed for the cost of prospecting, for the oil in the ground or damage by cancellation. Payment might be deferred ten years.

Immediately upon receipt of the decision Secretary of State Hull announced that the State Department would hold a conference of representatives of the American oil companies whose property had been expropriated before deciding what action should be taken. In as much as it was estimated that the companies had invested about \$100,000,000 and the value of the oil in storage raised by the companies was about \$15,000,000, the financial problem facing the Mexican Government was a serious one. The European war, by cutting off the export of Mexican oil to Germany and Italy, made the necessity of some solution all the more important for Mexico.

### PANAMA CANAL ZONE TREATY

The relations with Panama have been complicated ever since the devaluation of the dollar by the fact that Panama has steadily refused payment of the annual \$250,000 rental for the Canal Zone in 60-cent Amer-



## THE UNITED STATES AND LATIN AMERICA

ican dollars. The Panamanians also no longer desired a guarantee of their independence which might require possible armed intervention. A treaty signed in 1926 was refused by the Panama Assembly while another treaty signed in 1936 was held up in the Senate of the United States. Relations between the two states were therefore governed by the outmoded treaty of 1903.

On July 25, 1939, the United States Senate approved ratification of the General Treaty signed March 2, 1936 by the United States and Panama revising the convention of Nov. 18, 1903, and two days later ratifications were exchanged. The principal changes in the new convention are as follows: commercial activities of the United States in the Canal Zone more rigidly restricted; the United States renouncing the right formerly possessed to acquire by eminent domain lands and properties in or near the cities of Panama and Colon although retaining the right to purchase necessary lands; the right of the United States to intervene in Panama and Colon to maintain order abrogated; annuity payments beginning with 1934 to be 430,000 balboas, one balboa being approximately equivalent to the United States dollar of today; a corridor under Panamanian jurisdiction to connect the City of Colon with the rest of Panama provided and a similar corridor under American jurisdiction to connect the Madden Dam area with the Canal proper; and finally a provision that, in case of emergency, both governments to take necessary measures of defense to protect their common interests.

As evidence of the more cordial relations and their increasing importance it was decided to raise the legation at Panama to an embassy, and William Dawson, minister to Uruguay and a career diplomat, was named as the first United States ambassador to Panama.

### ECONOMIC RELATIONS WITH NICARAGUA

In connection with the visit of President Anastasio Somorzo of Nic-

aragua to Washington, letters were formally exchanged May 22 between Presidents Roosevelt and Somorzo setting forth the terms of an economic and financial agreement. In return for the promise of Nicaragua to encourage the investment of American capital, to utilize American technical advisors, and to provide adequate dollar exchange to holders of its customs bonds of 1918, the United States agreed to send to Nicaragua army engineers to study the feasibility of a trans-Nicaraguan waterway to link the east coast with the populous interior of the Pacific. The Export-Import Bank agreed to set up credits to the amount of \$2,000,000 to purchase machinery and supplies for the construction of highways and for other productive projects. The Export-Import Bank also agreed to make available a revolving fund of \$500,000 for emergency needs.

At the same time a supplementary agreement was signed providing for the detail of an officer of the United States Army to act as director of the Military Academy of the National Guard of Nicaragua. Major Charles L. Mullins, Jr. was assigned to this detail.

### PARAGUAY

A somewhat similar agreement was signed with Paraguay through General Estigarribia, Paraguayan President-elect, who visited the United States in June to work out a program of economic and financial cooperation. In the letters exchanged Paraguay agreed to accord every appropriate security to encourage the investment of American capital in the production of non-competitive agricultural products and in the improvement of transportation facilities. In return the Export-Import Bank of the United States agreed to the extension of \$500,000 of credits to stimulate commerce and reduce currency fluctuations and also to aid in the financing in the United States of equipment and materials.

### BRAZIL

By far the most important of these economic and financial agreements



## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

was made by Dr. Aranha, Foreign Minister of Brazil, in connection with a visit made to the United States in February and March. The United States through the Export-Import Bank agreed to extend credits to Brazil to the amount of \$19,200,000 to free Brazilian exchange for payment to American exporters covering merchandise shipped to Brazil but not paid for; it would also undertake to assist in financing future American exports to Brazil. It was also agreed that a recommendation be made to the United States Congress that it authorize a loan of \$50,000,000 gold to the Central Reserve Bank of Brazil. Technical assistants would be furnished to Brazil to aid in the diversification of production. Brazil in return agreed to free its exchange to assist in the purchase of American goods, to guarantee American investors pari-national treatment, and to undertake extensive operations for rubber production. By a separate agreement Brazil promised to resume service on its dollar bond indebtedness in default since November, 1937.

### TRADE AGREEMENTS

Secretary Hull continued to press forward with his reciprocal trade agreement program and the eleventh of these agreements with a Latin American state was signed Nov. 6 with Venezuela. By this agreement the United States obtained concessions upon its exports of flour, lard, lumber, automotive, and other indus-

trial products and agreed in return to a reduction of 50 per cent in its import duty on crude petroleum and fuel oil on a quota basis and also upon certain tropical products of a non-competitive nature.

Announcement was made in August of the intention to negotiate a trade agreement with Argentina, the first comprehensive commercial agreement between the United States and Argentina since 1855. Similar announcements were made in October of the intention to negotiate reciprocal trade agreements with Uruguay and Chile. Incidentally a provisional trade agreement with Chile had been effected by an exchange of notes signed Feb. 20 and 24.

As an evidence of a growing appreciation on the part of all the American republics for closer cooperation, the first meeting of finance ministers of the American Republics was held Nov. 14-21 in Guatemala City. The 16 resolutions and declarations approved at that meeting recommended among other things a uniform nomenclature and a common system of customs procedure, the establishment of an inter-American exchange system, the exchange of economic and financial statistics, and the establishment of a similar monetary standard throughout the continent.

The Good Neighbor policy was no longer a pious wish; it had become a concrete system of mutual cooperation along political, economic, and cultural lines.

## UNITED STATES RELATIONS IN THE ORIENT

BY HERBERT H. GOWEN

PROFESSOR, UNIVERSITY OF WASHINGTON

### EVALUATION OF POLICY

During no year in recent times has it been more difficult to evaluate accurately United States policy in the Far East than in 1939. This was partly due to the rapidly changing character of the Far East itself—the existence of conditions which may at

any moment compel a re-orientation of the American attitude—and partly to possible changes of policy on the part of western powers which have, as the United States has, interests and obligations in the Pacific. The difficulty is enhanced by the fact that during the past 100 years no such consistency of policy as to establish

## UNITED STATES RELATIONS IN THE ORIENT

a reliable tradition has been maintained by this country.

The above-mentioned considerations, as well as limitations of space, restrict this article to a recital of the more outstanding incidents in the history of Sino-Japano-American relations during the year, together with a curtailed statement as to the reaction of the State Department to these incidents.

It may not be out of date to commence with a reference to Secretary Hull's statement of fundamental policy in international affairs as made on July 16, 1937: "This country constantly and consistently advocates maintenance of peace. We advocate national and international self-restraint. We advocate abstinence by all nations from use of force in pursuit of policy and from interference in the internal affairs of other nations. We advocate adjustment of problems in international relations by processes of peaceful negotiation and agreement. We advocate faithful observance of international agreements" . . . and much more to the same effect. To this statement the Japanese Government replied: "The Japanese Government wishes to express its concurrence with the principles contained in the statement of Secretary of State Hull on the 16th. inst. concerning the maintenance of world peace."

Some months later, January 3, 1938. President Roosevelt announced practically the same policy: "It is our traditional policy to live at peace with other nations. More than that, we have been among the leaders in advocating the use of pacific methods of discussion and conciliation in international differences."

Such is the ideal; but as the moon, reflected in moving waters, presents but a blurred outline of the circle in the heavens, so the policy of a nation, applied to the events of a year, may yield a much less satisfying picture.

### TRADE AND OTHER MEASURES IN CHINA

Last year's corresponding chapter in THE AMERICAN YEAR BOOK closed

with a reference to British and American loans to Chiang Kai-shek's regime. These loans, while having more than one objective, reflected the prevailing sympathy of Americans and the general desire of our Government to favor Chungking as against Tokyo. This sympathy and desire colored the diplomatic history of 1939, though it is hard to say where sympathy for China ends and dread of Japanese commercial competition begins. Possibly the balance may appear in a survey of the year's harvest of "incidents."

At the very beginning, Jan. 27, 1939, Undersecretary of State Sumner Welles stated that "in our relations with the countries of the Far East the policy of this country is in no way different from our foreign policy in general." Yet, a sentence later, he acknowledges that Far Eastern relations "have their individual peculiarities." He alludes, of course, to the inheritance derived from British precedents, through the so-called "unequal treaties" by virtue of the "most-favored nation clause." These peculiarities are so intimately connected with the incidents which make up much of the year's history that they may be considered as clouding the disinterestedness of our concern over "the sovereignty and administrative integrity" of China. As far back as 1913 President Wilson appeared unconscious of any American interference with the domestic affairs of China and the same ignorance is widespread at the present day.

It is therefore clear that, while popular sentiment and official pronouncement have in the main placed this country at present on the side of China, the Government, in protesting against Japanese operations on the Asiatic continent, is largely concerned with securing protection for American citizens and American property. Mr. Welles stressed this point as recently as Nov. 17 and Nov. 20. To have gone beyond this, by actively aiding Chiang or opposing Japan, even by "measures short of war," would naturally have been construed as a breach of neutrality.

## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

### JAPAN AND AMERICAN NATIONALS

The charges against Japan of violating American rights may be considered under several heads, though it is impossible to keep these headings rigidly apart. Back in October, 1938, Ambassador Grew made lengthy and detailed protest covering the whole field of complaint. He spoke of "the unwarranted restrictions placed by the Japanese military authorities upon American nationals in China," ending with the statement that "Japanese commerce and enterprise have continued to enjoy in the United States equality of opportunity." This drew an equally detailed rejoinder from the Japanese Foreign Secretary Arita in which he said: "The Japanese Government were surprised at the allegation that there exists a fundamental difference between the treatment accorded the Japanese in America and the treatment accorded to Americans in Japan." On this point Arita promised something further "on another occasion." Mr. Grew replied in a still lengthier communication Dec. 31, 1938.

In an analysis of the complaints made against Japan by the United States, the charges of bombing American property may well come first. During the first six months of 1939 twenty-three instances of this outrage were reported. The Japanese Government retorted that, while some of these incidents were mistakes on the part of individual airmen, others were due to the fact that the Chinese sometimes "deliberately utilised American and other churches and religious establishments or areas in their neighborhood in their artillery attacks on the Japanese." In any case, it is satisfactory to note, incidents of the sort have much diminished of late, prompt payment has been made for damage inflicted, and much foreign property has been preserved by the Japanese even at the expense of strategic advantage.

### QUESTIONS OF AMERICAN SHIPPING

In the next place, much complaint has been made of Japanese interfer-

ence with American trade through the placing of restrictions on the freedom of American shipping and the limitation of the right of traders to free access to their property. The complaint takes many forms and has evoked protests from individuals, Chambers of Commerce, and the State Department. To the charge that, while, on the one hand, Japan promised freedom of trade, on the other hand she was ousting Americans from positions of advantage through creation of monopolies, the answer returned was that the "Identic Note" at the beginning of the year made it clear that no complete settlement of the question could be expected until the restoration of normal conditions at the conclusion of hostilities. Coincidentally, Japan protested the difficulty of ensuring protection of property which had been transferred to third country nationals with the object of "evading the exercise of legitimate rights by the Japanese forces." Complaints as to refusal of Japanese to return American property which had been temporarily occupied or to permit American nationals to return to their places of business in occupied areas, or the movement of American ships to parts of the lower Yangtze where fighting had ceased, were answered variously. Certain incidents were denied or explained away; the unsettlement of the country, or strategic considerations were pleaded in other cases; in some cases, as in that of Shanghai University, announcement was made that the property had been returned. Some charges, such as the supposed removal of the American flag from a junk on the Yangtze, were, after investigation, dropped.

### TIENTSIN BLOCKADE

Thirdly, the blockade of the Chinese coast, and especially of certain ports, brought inconveniences which became the subject of communications throughout 1939. In two places severe tension resulted—Kulangsu and Tientsin. In Tientsin the blockade was maintained against British only, because of the Settlement's refusal to hand over to the Japanese



## UNITED STATES RELATIONS IN THE ORIENT

certain suspected gunmen. But French and American traders were likewise subjected to inconvenience. The situation was presently eased by negotiation, the accused were surrendered, and other debatable subjects were carried over to a less menacing atmosphere. Some phases of the dispute, as is clear from the European war, seem to spring inevitably from an attempt at blockade.

### AN EXCHANGE OF AMENITIES

A pleasant interlude in the series of mutual recriminations such as makes up so much of the year's history is in the exchange of amenities which followed an event sufficiently sad in itself, namely, the death of the able and popular ex-ambassador to the United States, Hiroshi Saito, in March. No foreign diplomat recently had so endeared himself officially as Mr. Saito. His death, following his untimely withdrawal from public service, was universally mourned and the decision of the United States to return his ashes in an American warship was a much appreciated gesture. When the *U.S.S. Astoria* steamed into Yokohama at dawn on April 17, with the Stars and Stripes at half-mast at the stern and the Japanese naval ensign at the bow, all Japan responded with sympathetic warmth.

### ABROGATION OF COMMERCIAL TREATY OF 1911

Yet, three months later, like the proverbial bolt from the blue, on July 26, came the notice, served without warning, that the United States intended to abrogate the Commercial Treaty of 1911 at the expiration of six months. The diplomatic reason given was that the United States Government desired "to re-examine a number of its trade treaties." There were doubtless other reasons, not altogether unconnected with domestic politics. But, while Japan recognized need for revision of the treaty of 1911, the suddenness of the step taken was keenly felt. It was the strongest expression to date of American opposition to Japanese policies of recent years.

### MORAL EMBARGO ON IMPLEMENTS OF WAR

Official attitudes in Washington, however, had been growing steadily more adverse to the plans for a "New Order" in the Far East. The opposition was evidenced, of course, as far back as President Roosevelt's famous "quarantine" speech at Chicago and again in the suggestion of a "moral embargo" contained in a communication of the State Department addressed to the Registered Manufacturers and Exporters of Aircraft, on July 1, 1938. In this it was declared that "the Government of the United States is strongly opposed to the sale of air-planes or aeronautical equipment which would ultimately aid or encourage this practice (bombing of civilians) in any part of the world." The pronouncement led the Council of the League of Nations, a year later, to note that "a number of States, not all of them members of the League, have taken steps to discourage or prevent the supply of aircraft to Japan."

### EUROPEAN WAR REPERCUSSIONS

The outbreak of war in Europe in September caused a temporary diversion of interest from the Far East in the United States. Enactment of new neutrality legislation to avert American participation in the conflict, occupied the attention of Congress in the emergency session convoked by the President. Moreover, the unexpected alignment of Russia with Germany for the division of Poland had bewildering repercussions in the Far East. In Japan it forced the resignation of the Hiranuma Cabinet and the accession to power of General Abe, together with the practical dissolution of the Anti-Comintern Pact. On the other hand, it brought a partial easing of the position of Japan through a truce with Russia on the Mongolian frontier and through a considerable withdrawal of support hitherto furnished Chiang Kai-shek by Great Britain and France. That there was any actual lessening of Russian aid to China is not at present clear.



## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

### AMBASSADOR GREW'S FRANK COURSE

Counteracting this strengthening of Japan in her contest with the Kuomintang, a new element entered the situation through increase of pressure on Tokyo by the United States Government. Whether coincident designedly or not with the British and French decision to withdraw troops from China, American Ambassador Grew took the opportunity of his return from the United States to inform a meeting of the American-Japanese Society of Tokyo that the Japanese military policy was very generally resented in America. This blunt speech, delivered Oct. 19, was no doubt a major shock to the nation, but the reaction in the Japanese press was much less violent than might have been expected, the leading newspapers interpreting the utterance as one of friendly frankness. The very next day the new Foreign Minister, Admiral Nomura, declared that Mr. Grew had to some extent cleared the air and made preparations for opening such negotiations as might ease the tension, as well as secure a new commercial treaty. On Oct. 23 Mr. Suma, the Foreign Office spokesman, while denying that the American public was well informed on the subject, admitted the necessity for speedily reopening negotiations.

In spite of these anticipations, the progress of negotiations has been slow. Divided counsels appear to have existed in Tokyo, and perhaps in Washington. Some Japanese seem willing to postpone negotiations till after the clarification of the China "incident" and the recognition of a new Nanking Government by the United States. That this is a risky policy is clear; first, by the several-times repeated postponement in setting up the Government of Wang Ching-wei and, second, by the continuance of diplomatic pressure on the part of the United States. On Nov. 4 Mr. Grew hinted at possible steps in very blunt terms. He said: "A serious situation now exists and, unless it is improved soon, Japanese-American relations are likely to be-

come still worse." Almost coincidentally Representative Pittman of the Foreign Relations Committee of Congress was threatening an embargo on Japanese trade, and there can be little doubt that this course is at present rather popular at Washington, though other members of the Committee have used more restrained language.

### PENDING QUESTIONS AND PROBLEMS

During the last month little has occurred to change the situation radically, though the Japanese drive into Kiangsi, with the consequent cutting off of supplies through Indo-China, has improved the position of Japan both militarily and politically. General Abe's enlargement of his Cabinet, with the avowed object of cultivating friendship with Great Britain and the United States, has helped diplomatically. Yet there seems no expectation of settling the Sino-Japanese question prior to the ending of the Commercial Treaty on Jan. 26.

There are numerous questions which only events in the coming months can answer. What power of recuperation, it may be asked, resides in the Chingking government to justify continuing support to Chiang Kai-shek? What are the chances for the emergence of stable government, commanding the general allegiance of China, under Wang Ching-wei, a government, moreover, sufficiently amenable to Japanese direction to ensure peace? What again are the plans of Russia in north-west China? Will they involve more active support for Chungking? Will they involve support for Communist China against Chungking? Or will the exigencies of the situation compel some alignment of Russia with Japan for the division of northern China? Above all, will the United States continue her antagonism to Japanese policies and will Japan, deprived of Axis support and apprehensive of punitive action on the part of the United States, after the cancellation of the treaty, be compelled to modify her plans for

## UNITED STATES RELATIONS IN THE ORIENT

the creation of a "new order" in China?

At present these are matters for surmise, though straws here and there may furnish a clue. Some of these straws favor the Japanese plans, such as the growing dissension at Chungking and the apparent willingness of the British Government to conciliate Japan. Others favor the present American policy, such as the slowness of Wang Ching-wei to launch a government. On the whole, probably, the soundest American opinion is suggested by the remarks of men like Dr. Beard, Dr. Hindmarsh and Taraknath Das in the December *Asia*. All will agree as to the pressing need for speedy settlement as between Japan and the United States, whether that settlement be reached through normal channels of diplomacy or not. That a settlement be reached through direct aid given to Chiang Kai-shek is neither to be expected or desired.

Many feel that the United States occupies a position of advantage for an immediate offer of mediation. As Dr. Griswold puts it (*Asia*, Nov. 1939): "The European war, together with the upheaval of world-politics which preceded it, has offered the United States an exceptional opportunity to settle some of the issues of Japan that conflict with the fundamental national interests of the United States in the Pacific area." But he adds: "An effective American sanction directed exclusively against Japan, might prove a shot in the dark that struck a friend instead of a foe."

In making a new treaty with Japan, it will be well for Americans to bear in mind that, in spite of the century-old dream of "four-hundred-million customers" in China, Japan is still the real key to our commercial prosperity in the Far East. If public opinion and official declarations put us on the side of Chiang, in material matters Japan and the United States are still interdependent. It is for this reason that the true policy of the United States in the Far East should be one of closest sympathy both with China and Japan

and of active readiness to aid co-operation between these leading powers of Eastern Asia.

### THE OUTLOOK FOR AMERICAN RELATIONS

To some this will involve condonation of Japanese offences against American rights. A fair policy, however, must recognize the extent to which China has been responsible for her own ills and the extent to which Japan has been thwarted by western jealousy in the pursuit of legitimate aims. One need not speak of the United States policy in the Far East as one of "fluster and bluster", but one may well desire some re-orientation of the American attitude. The wishful thinking of many is expressed in the words of Dr. Treat, in his review of Dr. Griswold's recent book. After describing the failure of successive policies, from Theodore Roosevelt's adventure in imperialism, through the "dollar diplomacy" of Taft, the Hughes policy of "freezing the Pacific," and the Stimson "quest for collective security," he says:

"Every American offensive failed, and that should be worth remembering to-day. These failures were due to many reasons, some operating at one time and some at others. Among them were the simple facts that the American people never believed that any vital American interests were at stake in Manchuria or China; that the hoped-for trade with China never developed; that Great Britain, upon whom successive Secretaries of State counted for support, never failed to place her own real interests above American theories; that Far Eastern diplomacy was strongly influenced by European conditions; that Japan was defending interests which she deemed vital, and which were recognised as such by most of the great powers; and, finally, that it was impossible to place any firm dependence upon the Chinese Government for the time being." (*Annals, Academy of Political and Social Science*, Sept. 1939).

It may be hoped that 1940 will inaugurate an era of closer and friendlier relations with the Far East from which the entire Pacific will benefit.

### THE UNITED STATES AND THE NEAR EAST

BY WILBUR W. WHITE

ASSOCIATE PROFESSOR, WESTERN RESERVE UNIVERSITY

#### SAUDI ARABIA

Interest of the United States was directed officially toward Saudi Arabia in July 1939 with the opening of diplomatic relations with that country. This establishment of formal contact was at least partially connected with the letting on Aug. 7 of the oil concession for the country to the Standard Oil Company of California. Ibn Saud, the ruler of the country, frankly admitted that the oil concession was given to Standard Oil in order to prevent political implications developing from the concession. He had been under considerable pressure from Great Britain, France, Italy, Germany, and even Japan to grant the concession to companies from those countries. He chose a corporation from the United States as one which would bring upon him a minimum of diplomatic pressure. He is perfectly willing to maintain friendship in a special relation with Great Britain, but he desires to remain neutral, if possible, from conflicts in which the British have become or may become involved.

#### EGYPT

During the year in Egypt there was a cabinet crisis in which Prime Minister Mahmud resigned. Under the new government headed by Ali Maher, the Saadists cooperated but the Liberal Party did not. With the coming of the war in September the Germans were asked to leave, and in the middle of October a state of siege was set up. Gas masks, black-outs, and the usual paraphernalia of modern war became prevalent.

#### IRAQ

In Iraq in March there was a brief military uprising necessitating the establishment of martial law. Scarcely had the trouble been quelled when King Ghazi was killed in an automobile accident April 3. The following

day his three-year-old son was proclaimed King Feisal II, and the government was placed in the hands of a regency of five.

#### SYRIA

Throughout the first half of 1939 the utmost governmental unrest prevailed in Syria. In general it was based upon the refusal of France, even yet, to ratify the 1936 treaty which had in view the ultimate independence of Syria. The cabinet resigned in February, and there was serious rioting in March. Another cabinet crisis and resignation occurred in May, apparently due to reports that Hatay was to be ceded by France to Turkey, which cession did in fact take place with the treaty of June 23. This treaty was signed at a time of further cabinet upheaval and there was no government in power in Syria on the date of the signature of the treaty. On July 7 even the president resigned, and on the following day the constitution was suspended and the high commissioner appointed a council to assist him in ruling the country. As in the other states of the Near East, internal difficulties were minimized with the outbreak of war in September, since which time the French have been moving large numbers of troops into the mandate to aid in the maintenance of the French position in the Near East.

#### PALESTINE

One of the provisions of the Woodhead report on Palestine of Nov. 9, 1938, was for the calling of a round-table conference in London on the Palestine question in a last effort to see whether some compromise could not be worked out among the British Government, the Arabs, and the Jews. The report added that, if such compromise could not be reached, the British Government would then find it necessary to formulate a policy of



## THE UNITED STATES AND THE NEAR EAST

its own which it would proceed to enforce.

Much of the first half of the year was spent in the calling of this conference, in its breakdown, and in the promulgation of the new British policy for the strife-torn country. The conference was opened Feb. 7, but from the first it encountered difficulties. It was not in reality a "round-table" conference but rather two series of conferences between the British representatives and the Arabs and the Jews respectively, as the two interested groups refused to meet with each other. Moreover the Arab representatives were divided among the moderate Palestine Defense Party, the followers of the Mufti of Jerusalem, and emissaries from Egypt and the Arab states bordering on Palestine.

The Arabs, particularly the followers of the Mufti, demanded abolition of the Balfour Declaration, immediate cessation of Jewish immigration and land sales to Jews, and the substitution, in place of the mandate, of an independent Arab state allied to Great Britain by treaty. The Jews took exactly the opposite view on these points, demanding adherence to the Balfour Declaration and that there be no restriction on immigration and land sales and no permanent minority status for Jews in an Arab state.

After some three weeks of these conferences, it was reported Feb. 26 that the British were planning to end the mandate and set up an independent state, the details for which would be settled at a round-table conference to be held in the autumn. Both Jews and Arabs strenuously objected to this unofficial suggestion, and on March 8 the meetings were suspended and the British announced that they would establish their own solution. This British plan was submitted on March 12 and was rejected on March 16.

The plan was not made public until May 17 when it was published and passed within a week by the British Parliament. This proposal provided for a transition period before independence would be granted, during

which time immigration of Jews would be limited to 75,000 over a five-year period. It was expected under this plan that the ultimate Jewish proportion of the population would be about one-third. In addition the British plan provided that land sales to Jews would be restricted in certain parts of the country. On the other hand the British proposed to continue the mandate during the transition period and to guarantee to the Jews equality of political and economic rights.

Immediately Jewish demonstrations broke out in Palestine with some loss of life. Jews there and throughout the world condemned the project as a betrayal. The Arab reaction was divided. The National Defense Party headed by Ragheb Bey Nashashibi stated on May 29 that the plan was suitable as a basis for further negotiation. The followers of the Mufti of Jerusalem, who was at the time taking refuge in the Lebanon, flatly rejected the proposal, demanding immediate appointment of Arabs to ministerial rank and the cessation of Jewish immigration at once.

At the request of numerous American individuals and groups, Gentile as well as Jewish, Secretary of State Hull on May 29 gave out a statement of the attitude of the United States Government. This statement was practically a repetition of his declaration of the preceding Oct. 14 in which he had stated that the United States had no power to prevent a change in the mandate but could only refuse to recognize any changes that might be made in American rights, namely, any discrimination or impairment of property rights or the privilege of maintaining philanthropic institutions in the country.

The refugee situation in Europe was in part responsible for increased pressure on immigration into Palestine. During the late spring and early summer this pressure resulted in thousands of illegal entries. On July 12 Malcolm MacDonald, British Colonial Secretary, announced that no immigration into Palestine would be permitted for six months beginning Oct. 1. Later in July it was reported



## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

that the British were to give Palestinians a larger share in their own government by granting to them six district heads and six heads of the departments of the central government. Jews were to get two of each of these appointments and Arabs four, and all were to have British advisers. Unrest in the Palestinian population continued throughout the summer, but for the most part changed to loyalty with the opening of the war in September.

### TURKEY

Except for the resignation of Premier Jelal Bayar on Jan. 25, and his replacement by Dr. Refik Saydam, events in Turkey moved rather slowly for the first three months of 1939 due to the fact that new elections were called for March. President Ismet Inonu, who had succeeded Ataturk, the father of the Turkish republic, after the latter's death the preceding November, apparently wished a new mandate from the people. The parliamentary elections were held in March, and when the new parliament convened on April 3 its first action was to reelect Inonu president of the republic.

Two days before, on April 1, the trade agreement between the United States and Turkey, which had been negotiated in the latter part of 1938, was signed.

During the late spring and summer months Turkey was the focus of the greatest diplomatic activities. With events in Europe rapidly approaching a crisis, the Turks found it necessary to redefine their relationship to the great powers. In spite of long standing friendship for the Soviet Union the Turks negotiated mutual assistance declarations with Great Britain and France, respectively, on May 12 and June 23. To implement the former, a Turkish military mission was dispatched to London on June 2. To make the latter more binding the mutual assistance declaration with France was accompanied by a Franco-Turk treaty ceding to Turkey the long-irritating area of the autonomous republic of Hatay, formerly the Sanjak of Alexandretta. Both of these

declarations were merely temporary and were to be replaced when possible by more binding treaties of mutual assistance. The cession of Hatay was approved by the Hatay Parliament on June 29.

With the outbreak of the war and more particularly with the new Russian alignment with Germany, the Turks had further reason to reconsider their diplomatic position. Accordingly the foreign minister, Sukru Saracoglu, went to Moscow late in September to see if it would be possible to reach some kind of an agreement with the Russians. The conversations with the Soviets broke down on Oct. 17 due to the impossibility of reaching an agreement with Molotov on the promises of the neutral position of Turkey and particularly the Straits at Istanbul. The Russians were unwilling to prejudice in any way their relation with Germany and wanted an absolute guarantee that they would in no case be attacked by Great Britain and France through the Black Sea. The Turks, lacking any Russian guarantee that they would be safe in all cases from Germany or Russia, were unwilling to give the desired promise regarding the Straits.

On Oct. 19 Turkey completed a triangular pact with Great Britain and France replacing the mutual assistance declarations of the preceding May and June. It was a treaty of mutual assistance to last for 15 years and thereafter for five-year periods unless terminated by notification. By this treaty Great Britain and France promised assistance to Turkey in case of aggression by a European power. Turkey in return promised aid to the other two parties in case of aggression by a European power leading to war in the Mediterranean area or in hostilities resulting from the Anglo-French guarantees to Greece and Rumania. In other cases of hostilities Turkey promised to consult with Britain and France and observe a benevolent neutrality, but it was specifically provided that Turkey was not to be required to take action against the Soviet Union.

As if the threats from man had not

been enough for the republic to be required to handle, the forces of nature combined against the country during the last week of the year. On Dec. 27 probably the worst earthquake ever to be experienced in that part of the world occurred in the eastern part of Turkey with losses of life conservatively estimated at 20,000 to 30,000. The earthquake occurred

amidst the most bitter winter weather and many of the survivors of the quake succumbed to starvation and freezing. A few days later floods rose along certain of the rivers in the western part of the country. Both events combined practically to plunge the whole nation into mourning so that all celebrations of the New Year were called off.

## FOREIGN SERVICE OF THE UNITED STATES

By NATHANIEL P. DAVIS

DIVISION OF FOREIGN SERVICE ADMINISTRATION,  
DEPARTMENT OF STATE

### PERSONNEL

**Changes.**—In 1939 an examination was held Sept. 18–21 for appointment to the American Foreign Service. At this examination 512 took the written tests. The successful candidates presented themselves for oral examination early in 1940.

**Promotions from the Ranks.**—Since 1925, when the policy was formulated of promoting outstanding officers of the Service to the grades of Minister and Ambassador instead of recruiting them solely from civil life, there have been marked advances. Of a total complement of 20 ambassadors and 33 ministers, eight of the former and 16 of the latter had previously served in the ranks of the Foreign Service or of the Department of State. In addition, the Diplomatic Agent and Consul General at Tangier, Morocco, and the Minister Resident and Consul General at Baghdad, Iraq, function as Foreign Service Officers.

**Losses to the Service.**—During 1939 there were five deaths, six retirements and 18 resignations from the Foreign Service. At present the Service totals 829 career officers.

### REORGANIZATION

Under the authority of the Act of April 3, 1939, the President on May 9 transmitted to the Congress Reorganization Plan Number II which was designed, among other things, "to transfer the Foreign Commerce Service of the United States and its

functions now in the Bureau of Foreign and Domestic Commerce, and the Foreign Agricultural Service of the United States and its functions in the Department of Agriculture to the Department of State, and to consolidate them with the Foreign Service of the United States under the direction of the Secretary of State." This plan became effective July 1, 1939.

One hundred and six Foreign Commerce Officers and nine Foreign Agricultural Officers became Foreign Service Officers as a result of this step and have been assigned under appropriate commissions to various American diplomatic missions and consular offices. Clerical employees of the former Commerce and Agricultural Services have likewise been incorporated in the clerical force of the Foreign Service and assigned to duty at Foreign Service posts. The Foreign Commerce and Foreign Agricultural Services have ceased to exist as independent organizations. Thus, there have been completed the major measures of reorganization which began with the amalgamation of the diplomatic and consular services on a career basis in 1924, and, for the first time in history, the United States is represented abroad by a single unified Foreign Service operating under the direction of the Secretary of State. The advantages to be derived from this measure are several, most important being the elimination

II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

of duplication of effort, removal of a source of possible friction between departments of the Government, greater efficiency through centralized authority and increased mobility of personnel, and reduced overhead cost. The conduct of foreign affairs and protection of American interests in foreign countries are the responsibility of the Secretary of State who now has under his sole direction the machinery for discharging that responsibility.

The functions of the Departments of Agriculture and Commerce in the promotion of American trade are not diminished by Reorganization Plan Number II. Those Departments continue to be the direct liaison between Government and the agricultural and commercial interests of this country, and an important result of

the combination of the three Services should be greater efficiency in more effectively performing those functions at less cost to the taxpayers.

CLASSIFICATION, FOREIGN SERVICE, 1939

	Salary	Number as of December 14, 1939
Heads of Missions		
Ambassadors.....	\$17,500	18
Ministers.....	12,000	1
Ministers.....	10,000	28
Diplomatic Agent and Consul General (Tangier).....	FSO*	1
Minister Resident and Consul General (Baghdad).....	FSO*	1
		49

\* Foreign Service Officer.

	Salary	Number as of December 14, 1939
Foreign Service Officers		
Class 1.....	\$9,000-\$10,000	44
Class 2.....	8,000- 8,900	38
Class 3.....	7,000- 7,900	54
Class 4.....	6,000- 6,900	87
Class 5.....	5,000- 5,900	91
Class 6.....	4,500- 4,900	106
Class 7.....	4,000- 4,400	134
Class 8.....	3,500- 3,900	98
Unclassified (a)	\$3,400	2
Unclassified (a)	3,300	1
Unclassified (a)	3,200	2
Unclassified (a)	3,100	2
Unclassified (a)	3,000	79
Unclassified (b)	2,800	2
Unclassified (b)	2,750	31
Unclassified (c)	2,700	1
Unclassified (c)	2,600	2
Unclassified (c)	2,500	55
		829

Clerks—Senior		
Class 1.....	\$4,000	4
Class 2.....	3,750	6
Class 3.....	3,500	10
Class 4.....	3,250	34
Class 5.....	3,000	58
Clerks—Junior		
Class 1.....	2,750	89
Class 2.....	2,600	2
Class 2.....	2,500	84
Class 3 all under	2,500	1636
		1923

DIPLOMATIC PERSONNEL  
AMBASSADORS

Accredited by United States			Accredited to United States		
Argentina.....	Norman Armour	1939	Señor Don Felipe A. Espil		1931
Belgium.....	John Cudahy	1940	Count Robert van der Straten- Ponthoz		1935
Brazil.....	Jefferson Caffery	1937	Mr. Carlos Martins		1939
Chile.....	Claude G. Bowers	1939	Señor Don Alberto Cabero		1939
China.....	Nelson T. Johnson	1935	Dr. Hu Shih		1938
Colombia.....	Spruille Braden	1939	Señor Dr. Don Gabriel Turbay		1939
Cuba.....	George S. Messersmith	1940	Señor Dr. Pedro Martínez Fraga		1937
Ecuador			Señor Capitán Colón Eloy Alfaro**		1936
France.....	William C. Bullitt	1936	Count de Saint-Quentin		1938

# FOREIGN SERVICE OF THE UNITED STATES

Accredited by United States			Accredited to United States	
Germany.....	Vacant <sup>1</sup>		Herr Hans Heinrich Dieckhoff	1937
Great Britain..	Joseph P. Kennedy	1938	The Right Honorable the Mar- quess of Lothian	1939
Italy.....	William Phillips	1936	Don Ascanio dei principi Colonna	1939
Japan.....	Joseph C. Grew	1932	Mr. Kensuke Horinouchi	1938
Mexico.....	Josephus Daniels	1933	Señor Dr. Don Francisco Cas- tillo Nájera	1935
Panama.....	William Dawson	1939	Señor Dr. Don Augusto S. Boyd	1939
Peru.....	R. Henry Norweb	1940	Señor Don Manuel de Freyre y Santander	1930
Poland.....	Anthony J. Drexel Biddle, Jr.*	1937	Count Jerzy Potocki	1936
Spain.....	Alexander W. Weddell	1939	Señor Don Juan Francisco de Cardenas	1939
Turkey.....	John Van A. MacMurray	1936	Mr. Mehmet Münir Ertegün	1934
Union of Soviet Socialist Re- publics.....	Laurence A. Steinhardt	1939	Mr. Constantine A. Oumansky	1939
Venezuela.....	Frank P. Corrigan	1939	Señor Dr. Don Diógenes Esca- lante	1939

<sup>1</sup> Alexander C. Kirk, Chargé d'Affaires ad interim.

\* Temporarily located at Angers, France—December 14, 1939.

\*\* Accredited as Ambassador Extraordinary and Plenipotentiary for the duration of the boundary negotiations between the Governments of Ecuador and Peru.

## MINISTERS

Accredited by United States			Accredited to United States	
Australia.....	Clarence E. Gauss	1940	Richard G. Casey	1940
Bolivia.....	Douglas Jenkins	1939	Señor Dr. Don Luis Fernando Guachalla	1936
Bulgaria.....	Vacant <sup>1</sup>		Mr. Dimitri Naoumoff	1936
Canada.....	James H. R. Cromwell	1940	Mr. Loring C. Christie	1939
Costa Rica....	William H. Hornibrook	1937	Señor Don Ricardo Castro Beeche	1936
Czecho-Slovakia Danzig, Free City of	C. Porter Kuykendall (Con- sul in Charge)	1938	Mr. Vladimír Hurban	1936
Denmark.....	Ray Atherton	1939	Mr. Henrik de Kauffmann	1939
Dominican Re- public.....	Robert M. Scotten	1940	Señor Don Andrés Pastoriza	1935
Ecuador.....	Boaz Long	1938	Señor Capitán Colón Eloy Alfaro	1933
Egypt.....	Bert Fish	1933	Mahmoud Hassan Bey	1938
El Salvador....	Robert Frazer	1937	Señor Dr. Don Hector David Castro	1934
Estonia.....	John C. Wiley	1938	Mr. Johannes Kaiv, Acting Consul General of Estonia in New York City in charge of Legation	1939
Finland.....	H. F. Arthur Schoenfeld	1937	Mr. Hjalmar J. Procopé	1939
Greece.....	Lincoln MacVeagh	1933	Mr. Demetrios Sicilianos	1935
Guatemala....	Fay A. des Portes	1936	Señor Dr. Don Adrian Recinos	1928
Haiti.....	Ferdinand L. Mayer	1937	Mr. Elie Lescot	1937
Honduras.....	John D. Erwin	1937	Señor Dr. Don Julian R. Caceres	1939
Hungary.....	John Flournoy Montgomery	1933	Mr. John Pelényi	1933
Iran.....	Louis G. Dreyfus, Jr. <sup>2</sup>		Dr. Ali Akbar Daftary, Coun- selor and Chargé d'Affaires ad interim	1939
Iraq.....	Paul Knabenshue (Minister Resident and Consul Gener- al)	1932		
Ireland.....	John Cudahy	1937	Mr. Robert Brennan	1938

<sup>1</sup> Hugh Millard, Chargé d'Affaires ad interim.

<sup>2</sup> Appointed Minister to Iran July 7, 1939, but has not assumed office; Cornelius Van H. Engert, Chargé d'Affaires ad interim.



## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

Accredited by United States			Accredited to United States	
Latvia . . . . .	John C. Wiley	1938	Dr. Alfred Bilmanis	1935
Liberia . . . . .	Lester A. Walton	1935		
Lithuania . . . . .	Owen J. C. Norem	1937	Mr. Povilas Zadeikis	1935
Luxemburg . . . . .	John Cudahy	1940		
Monaco . . . . .	Horace Remillard (Consul in Charge)	1936		
Morocco . . . . .	Maxwell Blake (Diplomatic Agent and Consul General)	1925		
Netherlands . . . . .	George A. Gordon	1937	Dr. A. Loudon	1938
Nicaragua . . . . .	Meredith Nicholson	1938	Señor Dr. Don León De Bayle	1937
Norway . . . . .	Florence Jaffray Harriman	1937	Mr. Wilhelm Munthe de Morgenstierne	1934
Palestine . . . . .	George Wadsworth (Consul General in Charge)	1935		
Paraguay . . . . .	Findley B. Howard	1935	Dr. Horacio A. Fernández	1939
Portugal . . . . .	Herbert Claiborne Pell	1937	Dr. João Antonio de Bianchi	1933
Rumania . . . . .	Franklin Mott Gunther	1937	Mr. Radu Irimescu	1938
San Marino . . . . .	John R. Putnam (Consul General in Charge)	1937		
Sweden . . . . .	Frederick A. Sterling	1938	Mr. W. Boström	1926
Switzerland . . . . .	Leland Harrison	1937	Mr. Charles Bruggmann	1939
Syria . . . . .	Ely E. Palmer (Consul General in Charge)	1937		
Thailand . . . . .	Edwin L. Neville	1937	Phya Abhibal Rajamaitri	1935
Union of South Africa . . . . .	Leo J. Keena	1937	Mr. Ralph William Close	1934
Uruguay . . . . .	Edwin C. Wilson	1939	Mr. J. Richling	1934
Yugoslavia . . . . .	Arthur Bliss Lane	1937	Mr. Constantin Fotitch	1935

## THE LEAGUE OF NATIONS AND ASSOCIATED AGENCIES

BY THE ASSOCIATES

THE GENEVA RESEARCH CENTER

### UNITED STATES ATTITUDE

The attitude of the United States Government towards the post-World War agencies of international cooperation became more sharply defined during 1939 as the world moved toward and eventually entered into its second war within the present generation.

As regards the League of Nations, more general statements were made by the Government than in any year since the League's creation. As regards the International Labor Office, American membership and leadership stabilized still more firmly. Only towards the Permanent Court of International Justice, most American in a sense of all three, was there no development.

America's increased outspokenness was natural in the circumstances. The critical situation in the world had caused a searching of hearts and a firmness of expression in Washington as to the kind of world the United

States desired to see built which might not have been manifested in more comfortable circumstances. At the same time, the League gave opportunity for such expression by a general letter to non-Member States, its acceptance of the invitation to participate in the New York World's Fair, and other more technical ways.

### THE LEAGUE'S AMERICAN RELATIONS

For the first time, as it happened, when the League was facing its greatest emergency, the story of its American relations during the year could be written almost entirely from formal government statements. This was true not only before the war, as in the State Department's declaration that the League had done more for international cooperation "than any other organization in history," but also after the outbreak of war, as in the Department's cable that the anti-

drug work must go on and President Roosevelt's similar imperative as to the work of the Labor Office.

For the first time, too, emphasis was laid on the direct importance of this work to the United States itself. Assistant Secretary of State Henry F. Grady stressed that "we have received many benefits from our participation in the League's work" in the fields of economics, finance, transit, health, nutrition, housing, and the like; Surgeon-General Parran emphasized that the United States had participated in the League's health work from the start because, "quite apart from any humanitarian motive, we have always recognized that it is to our interest to do so"; while the State Department felt it "of the highest importance, not only to the United States but to the entire world" that the League's opium work be not interrupted by the war.

Yet these statements might by themselves lead to a false perspective. While reflecting the attitude of the executive, which is closest in touch with foreign affairs, they were not echoed in the legislative. Government cooperation in Geneva, though unopposed in Congress, has never been affirmatively approved, with the exception of American membership in the Labor Office and a few League conventions. Even with this qualification, however, the Government's increased friendliness to the League and Labor Office, despite the war, was much appreciated abroad and led to adaptations in League organization and work which are important both for the present in making American cooperation easier and still more for the future in facilitating the fundamental reorganization of international life which must take place after the war.

## POLITICAL DEVELOPMENTS

**Curtailement of Activities.**—The United States was less directly affected by the League's specific political activities than in other less serious crises, for the simple reason that the League itself was almost completely outside the 1939 crises until Finland's appeal at the end of the

year suddenly injected it into their midst. The Sino-Japanese dispute, which had brought the United States to the League Council, saw little diplomatic effort during the year; the Ethiopian dispute remained quiescent, with both League and America resting on the non-recognition principle; the Spanish conflict, which had involved both, was liquidated during the year; the Czech and Polish crises passed without the League being invoked by either party; and the second great war broke out on the eve of the 20th Assembly but also without appeal to the League. In a sense the United States was more active and the League less active in world affairs than at any time since the World War.

**Finland and Russia.**—Finland's appeal to the League unexpectedly brought the League back into the picture just when it seemed to be destined for complete political inactivity during the war. Its first step was to attempt a peaceful settlement which met with the same lack of success as that of the American Government previously. It then proceeded to rapid, unanimous adoption of a report condemning Russia of aggression and violation of the Briand-Kellogg and other agreements and expelling her from League membership. In accord with the Saavedra-Lamas Pact, the Secretary-General was authorized to "consult non-Member States with a view to possible cooperation." The United States, though not represented at the meeting, had followed it closely through the presence of the American Minister in Berne, Leland Harrison, and several of the Geneva Consular staff, leaving no doubt that the efforts of the League and of the United States to assist Finland would be mutually known and closely coordinated.

## NON-POLITICAL DEVELOPMENTS

**Economic and Social.**—Undoubtedly the outstanding development during 1939 both in the relationship of the United States to the League and in the general development of international cooperation was the far-reaching reorganization of the

## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

League's economic and social work, which had largely been given impetus by American interest and worked out along American lines. The State Department's note of Feb. 2 to the League and the report of the subsequent League Committee may well be read not only as an assessment by both Washington and Geneva of the first two decades' efforts but also as a common starting point for the eventual resumption of the forward march of civilization after the war.

**American Cooperation.**—The former constituted the most sweeping statement the American Government, or almost any other Government, had made on the League since its creation. The League, it said, "had been responsible for the development of mutual exchange and discussion of ideas and methods to a greater extent and in more fields of humanitarian and scientific endeavor than any other organization in history." The American Government was "keenly aware of the value of this type of general interchange and desires to see it extended. . . . It regards each sound step forward in these fields as a step towards the establishment of that national and international order which it believes is essential to real peace. . . . It will continue to cooperate in those activities and will consider in a sympathetic spirit means of making its collaboration more effective."

This most generous reply coincided with and undoubtedly considerably accelerated moves of coordination already under way in Geneva. In the economic and financial field, a special committee with two American members, Henry F. Grady of the League's Economic Committee and Mitchell B. Carroll, chairman of the League's Fiscal Committee, drew up a new plan of work. In the social field, Miss Elsa Castendyck, American Government member of the Social Committee, was authorized by the State Department to sit on a committee to coordinate the League's social, health, and labor activities, while Dr. Frank G. Boudreau, for 12 years a member of the Health Section and

at the moment director of the Millbank Memorial, was invited by the Secretary-General to return to Geneva to advise on similar subjects.

**The Bruce Committee.**—It was the Bruce Committee, however, composed of widely representative and most highly experienced personalities, which crystallized all this in the broadest reorganization of international cooperation since the war. Reviewing 20 years' experience in great social and economic problems, such as economics, transport, taxation, demographics, depressions, health, nutrition, housing, child welfare and the like, it proposed a new central agency which should take all this work over from the Council, a predominantly political agency, and which should not only have the advantage of expert, non-official members but which would give non-Member States "the opportunity of the fullest possible cooperation in the work itself as well as in its direction and supervision." This report, probably the most important the League has drafted, was unanimously approved by the 20th Assembly, with particular consideration of the possible interest of non-Member States, notably the United States, and an organizing committee created to set it in operation early in 1940. The American Government, which has shown warm interest in this type of work, was thus given a specific plan for the fullest possible cooperation on the same basis as Member States and without any of the political implications which have hitherto handicapped it.

### ECONOMICS, FINANCE, AND TRANSIT

**Economic Committee.**—American interest in the League's efforts for improved economic and financial relations continued active during 1939, with highly placed and authoritative American citizens sitting on practically all the committees in this wide field. Henry F. Grady, subsequently appointed Assistant Secretary of State, was named vice-chairman of the parent Economic Committee, with the understanding that he would automatically succeed next year to



the chairmanship, thus putting this important League committee under American direction. He was present at the March session and replaced at the June session by Donald Edgar of the United States Consulate at Geneva as observer. The Economic Committee's general "Observations" on the world economic situation described Secretary of State Cordell Hull's program of reciprocal trade treaties as that "most calculated to restore international trade to a healthy state."

**Fiscal Committees.**—On the other parent committee, the Financial, T. Jefferson Coolidge, former Assistant Secretary of the Treasury, served as American member during the regular session in June when questions of general policy were under discussion. Mitchell B. Carroll served as chairman of the Fiscal Committee, which, with an immense amount of statistical data before it and corresponding members in 47 countries, drew up precise recommendations for the improvement of tax systems and tax practices. Dana Durand of the United States Tariff Commission and E. M. Fisher of the Federal Housing Administration were present at the spring meeting of the Statistical Committee, whose minimum list of statistics and whose specific suggestions on housing and timber statistics had been cordially approved by the Government at Washington during the year. W. W. Riefler, later appointed as one of Secretary of the Treasury Morgenthau's personal advisers, and Carter Goodrich, Geneva representative of the United States Department of Labor, sat on the Committee on Economic Depressions, which had aroused much American interest, and Mr. Goodrich served also as a member of a new committee on the perennially important subject of demographic problems. Finally, the Committee of International Loan Contracts, of which Reuben Clark had been the American member, issued its report during the year, though with reservations by Mr. Clark as to its full applicability to the particular situation obtaining in the United States at the time.

## HEALTH, NUTRITION, AND HOUSING

**Health.**—America's interest in the League's health work was proclaimed by Surgeon-General Thomas Parran speaking as one of President Roosevelt's personal representatives at the opening of the League's Pavilion at the New York World's Fair. "Our Government," he said, "through successive administrations, has made it a policy to participate as fully as possible in the health work of the League, for, quite apart from any humanitarian motive, we have always recognised that it is to our own interest to do so." He referred specifically to the membership of his predecessor, Dr. Hugh S. Cumming, on the Health Committee from the start, the cooperation of dozens of American physicians in committees on tuberculosis, typhus, biological standardization, vital statistics, and nutrition; and the creation by the American Public Health Association of a Committee on Housing to co-operate with the League. In line with this interest, former Surgeon-General Cumming made a special effort, after the outbreak of war, to attend the meeting of the Health Committee called to decide the program of work in the new circumstances.

**Nutrition.**—Of the special work which has developed out of the Health Committee's activities, nutrition has from the outset drawn a particular American interest. As surgeon-General Parran put it: "The League of Nations has given great impetus throughout the world to the movement for better nutrition . . . No one can form an exact idea of the improvement in the health of all classes that would occur should all those of our people who are now consuming diets deficient in some respect be supplied with the optimum diets recommended by the League Committee." In May, the League Council, in organising a regional meeting at Buenos Ayres of national nutrition committees in the Americas, decided to invite representation of the United States, which at each of the previous meetings was stated to have "proved extremely valuable." The Govern-



## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

ment accepted this invitation, appointing as its representative Dr. Hazel K. Stiebeling, senior food economist of the Department of Agriculture.

**Housing.**—The League's studies in housing development and experience in different countries was also of considerable American interest. The special committee of the American Public Health Association, created to serve as the American representative of the League's Housing Commission, presented to the League during the year a detailed report of American experience and recommendations, and its chairman, Prof. C. E. A. Winslow of Yale, as well as Prof. Frederick J. Adams of Massachusetts Institute of Technology, attended the League Commission's meeting in June. Moreover, a sub-committee of the League's Statistical Committee, of which Dr. E. M. Fisher of the Federal Housing Administration was a member, drew up a minimum program of housing statistics, which the Department of Commerce later described as "a very valuable contribution" to the question. The League's publication on "Urban and Rural Housing" also contained much material of American interest.

### DRUGS, SOCIAL, AND REFUGEES

**Drug Control.**—America's most complete cooperation in any branch of League work was undoubtedly in the effort to combat the drug traffic, where it had both a juridical connection through ratification of League conventions and an administrative connection through membership in and cooperation with the various League committees. This cooperation was strikingly shown when, after the outbreak of the war, the Government cabled Geneva its opinion that it was upon the operation of the League's Opium Central Board and Supervisory Body, "supplementing and coordinating the efforts of individual nations that the entire fabric of international drug control ultimately rests, and the American Government regards it of the highest importance, not only to the United States, but to the entire world, that

they should be enabled to function adequately, effectively, and without interruption . . . The American Government has regularly and thoroughly cooperated with these two boards since their establishment and expects to do so in the future as in the past." Its Minister in Switzerland, Leland Harrison, attended the League Council's meeting in January on the composition of the first-named body, of which Herbert May had earlier been reappointed a member and chosen as vice-chairman. Similarly, Stuart J. Fuller, assistant chief of the Far Eastern Division of the State Department and Henry J. Anslinger of the Treasury Department took their usual active part in the parent body, the Opium Advisory Committee, while the government fully cooperated in all matters of statistics, laws, and administrative work.

**Social Questions.**—The United States similarly maintained during 1939 its position as "full member" of the League's Advisory Committee on Social questions which it had accepted in 1935 after serving as an observer almost from the start. The Government appointed Elsa Castendyck of the Children's Bureau of the Department of Labor as its representative in substitution of Katharine F. Lenroot, and Miss Castendyck took an active part at the annual meeting in July in relation to questions of child welfare, delinquency and juvenile courts, improvement of the standard of family life, and problems of venereal disease. The Government also transmitted its annual reports on child welfare and traffic in women, which provided valuable additions for the League publications on these subjects.

### Status of Women and Refugees.

Two kindred questions of American interest may also be mentioned. That of the legal status of women, which had been widely discussed in the United States, was further advanced as a special committee, of which Judge Dorothy Kenyon of New York was a member, made arrangements for its final report on the subject. Similarly, the problem of refugees, which was being approached from

two different angles, that of the League's refugee organizations, of which an American, James G. McDonald, had formerly been High Commissioner, and that of the Evian Conference called by President Roosevelt, of which another American, George Rublee, had been director, was expedited by combining both these posts in the League Commissioner, Sir Haven Emerson, who attended President Roosevelt's White House consultations in the fall in both capacities and the League Assembly in December in his League capacity.

## CULTURAL COOPERATION

American intellectual quarters both official and private also maintained during the year the wide interest they had manifested from the start in the new methods of cultural collaboration made possible through the League. The government signed, though it has not yet ratified, the new arrangements regarding educational films, was largely guided in its policy on authors' rights by League studies, and cooperated directly or indirectly in other such work. The American National Committee on Intellectual cooperation continued under the chairmanship of Prof. James T. Shotwell as American organ of this branch of League work, Mr. Shotwell himself being replaced by Dr. G. F. Zook, president of the American Council on Education, at the annual meeting of the parent committee in Geneva, which was also attended by Malcolm Davis as a member of the Executive Committee. American influence was predominant in the International Studies Conference, for, besides being made possible in large part by a Rockefeller Foundation grant, its 12th session at Bergen was presided over by Mr. Davis, with a large American delegation present and Prof. Pittman B. Potter chosen as rapporteur-general for the next session. Another important American delegation, including Dr. Ben M. Cherrington, chief of the Division of Cultural Relations of the State Department, took part in the Regional Conference of 24 national committees

on Intellectual cooperation at Santiago de Chile in January. Institutions, universities, and individuals too numerous to mention took part in others of the many activities initiated by the League in this wide field.

## NEW YORK WORLD'S FAIR

A most cordial reception was given by both government and public to the League's exhibit at the New York World's Fair, the first it had ever attempted. President Roosevelt sent three high-ranking personal representatives to the opening ceremony—Secretary of Agriculture Wallace, Assistant Secretary of Labor McLaughlin, and Surgeon-General Parran—all of whom spoke warmly of the League's work, while Assistant Secretary of State Henry F. Grady came from Washington to participate in "League of Nations Day." No other building at the Fair, Mr. Wallace said, was more symbolic than the League's; there, "as perhaps nowhere else, is symbolized the hope of man in the world of Tomorrow." Dr. Parran described the League as "the most ambitious scheme ever devised to adapt mankind to the new world which was arising out of the ruins of the World War"; Mr. Grady, in recalling American cooperation in disarmament, economics, finance, health, and "a multitude of other social and technical problems," stressed that "we have received many benefits from our participation in the League's work in these fields." The public welcome was equally cordial, a national committee of nearly 1,000 leading citizens being organized to sponsor the exhibit and the guide service being taken over by American college boys and girls serving as volunteers in three shifts daily. Over 1,000,000 people visited the building, and when, after the outbreak of war, the League felt it impossible to provide new funds for its continuance a second year, a non-partisan group of American citizens volunteered to be responsible for any deficit above the unexpended balance available.

## LEGAL AFFAIRS

The United States continued during 1939 to transmit to the League its

## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

various international agreements as they became operative. This was in accord with the 1934 exchange of notes aimed at "making the Treaty Series compiled by the League more complete and the texts of Treaties with the United States more widely available in foreign countries." The government transmitted 19 such agreements, involving many different countries and the widest range of subjects, including some with non-Member States which would not otherwise have been received and some with Member States which had not themselves registered them.

No further signatures or ratifications of conventions drafted through the League were, however, received during the year. A compilation of such League documents from the start showed that the United States had ratified six general League conventions on subjects as widely different as the arms traffic, slavery, double nationality, opium, and whaling, as well as several Labor Office Conventions on maritime labor. It had signed but not ratified several other conventions, notably those on the World Court and poison gas, as well as counterfeiting currency and educational films. It had neither signed nor ratified, however, the great bulk of League conventions which had built up a considerable body of new international law on subjects running all the way from buoyage and lighting of coasts to prevention of war.

### WORLD COURT

The World Court, though proposed and largely constructed by Americans and pressed for American membership by every President and Secretary of State since its inception, remained another year without official relationship with or support from the United States. Twice the center of a nation-wide and greatly exaggerated controversy, once in 1926, when its statute had been ratified with reservations by a large majority, and again in 1935 when the Convention embodying those reservations had been defeated by a narrow margin, it remained throughout 1939 without any move or action in Washington.

Unofficial American cooperation continued, however, as in previous years. Judge Manley O. Hudson maintained the tradition of a judge of American nationality established successively by America's foremost jurists, Judges Moore, Hughes, and Kellogg, and participated in the Court's spring session though prevented by the war from arriving for the fall session. The American national group, consisting of Judges Hudson and Moore and Green H. Hackworth and Michael Francis Doyle, complied with the League's invitation received through the State Department to nominate candidates for the third general election of judges scheduled for the 20th League Assembly in September, naming Judge Hudson and three other widely representative nominees from Argentina, China, and Italy. When the Assembly, which had to be postponed on account of the war, finally met in December, it was felt wisest not to proceed to a general election during the present crisis but to continue the present judges, including Judge Hudson, in office for the time being.

### INTERNATIONAL LABOR ORGANIZATION

American influence in the International Labor Organization, always large since its assumption of membership in 1934, became even larger during the critical year of 1939. From a position of almost complete non-recognition in the first years of this new international agency, the United States had come by the end of its 20th year to the position of being almost its most influential and active member. Not only were Americans serving as Director of the Office and as Chairman of the Governing Board, but American delegations comprising governmental, employer, and labor delegates were very active in all conferences and committees, and the Government itself lost no occasion of expressing its faith in the organization.

**Statements of Policy.**—A series of statements of policy took place during the year as the international situation became darker and the world



finally descended anew into war. In April, Carter Goodrich, United States Government representative on the Emergency Committee, was instructed to express the Government's view that the Organization should function as completely and efficiently as possible in the event of a crisis. Shortly after, Secretary of Labor Perkins described the Organization as "an agency of democracy, with the strength and steadiness of a democracy . . . with greater prestige than any other agency of international relationships." In September, after the outbreak of hostilities, the United States representative reaffirmed to the Emergency Committee the Government's support for the fullest practicable functioning of the Organization during the war. Finally, President Roosevelt expressed to the Regional Conference of American States in Havana in November "the sincere hope of the Government that there will be no lessening of the activities of the I.L.O. during the existing world emergency."

**Labor Conferences.**—The United States was represented by large delegations of representatives of the Government, the employers, and the workers at all meetings of the Organization during the year. At the annual conference in June, the Government delegates were headed by Assistant Secretary of Labor Charles V. McLaughlin and Carter Goodrich, Labor Commissioner at Geneva, the employers by Henry I. Harriman, and the labor group by Robert J. Watt, all of whom also served as American representatives at the governing body and as representatives of the governing body at the Havana Conference. The three American groups at that conference were headed respectively by Arthur J. Altmeyer, Clarence G. McDavitt, George Harrison, and James B. Carey. Other Americans participated in conferences on the reduction of hours of work in rail transport, labor inspection, safety in coal mines, and management. Most striking of all, however, was that two American citizens held the most important offices in the Organization,

former Governor John G. Winant continuing as Director of the Office and Carter Goodrich being elected as Chairman of the Governing Body.

**Public Works and Industry.**—The United States pursued both an active and a liberal policy on the various problems before the Organization. During the year, it formally notified its acceptance of the two recommendations on internal cooperation on public works and for national planning of public works and submitted to the Senate for ratification of the Statistics of Wages and Hours Convention, with favorable recommendations by President Roosevelt, Secretary Perkins, and both employers' and workers' representatives. The United States also supported resolutions at the annual conference on hours of work in industry, commerce and offices, as well as in coal-mining, on rest and work periods for road transport workers, on vocational education and apprenticeship, on ratification by Federal states. In the governing body, it supported the convening of the Havana Conference, as well as further action as to textiles and elderly workers, while it took an active part in the Havana Conference on the work of women and children, social insurance, and organization of immigration and settlement.

**American Attitude.**—It remained for President Roosevelt, however, to express the most general indication of America's general attitude to the Organization, reaching back over many years and looking out into a world at war, when he said in a communication to the Havana conference: "Twenty years of the International Labor Organization's existence have proved the usefulness of such an organization in time of peace. I am confident that it can and will be of service to its members, and indeed to society as a whole, in time of war. Its many activities make it a focal point from which should come constant reminder in these tragic days that humane civilisation can flourish only under conditions of just and humane relationships."



## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

### CHRONOLOGY OF INTERNATIONAL AFFAIRS, 1939

(From *The New York Times*)

#### THE WAR

##### JANUARY

- 11—Prime Minister Chamberlain visits Mussolini in Rome.
- 30—Hitler demands return of colonies.

##### FEBRUARY

- 6—Chamberlain pledges support to France against danger.

##### MARCH

- 10—Stalin tells Communist Party Congress Britain and France tried to foment German-Soviet war.
- 14—Germany breaks up Czecho-Slovak Republic; troops march into Bohemia-Moravia, make it protectorate; Hungary invades Ruthenia.
- 15—Chamberlain says German action violates Munich agreement.
- 16—Slovakia becomes German protectorate.
- 17—Chamberlain recalls Ambassador to Berlin; ends appeasement.
- 18—French Chamber of Deputies votes dictatorial powers to Premier Daladier.
- 19—Russia refuses to recognize German seizure of Czecho-Slovakia.
- 22—Lithuania surrenders Memel to Germany.
- 31—Chamberlain pledges Britain and France to fight for Poland in case of aggression.

##### APRIL

- 7—Italy invades Albania, deposes King Zog.
- 13—Britain and France promise to protect Rumania and Greece against attack.
- 15—President Roosevelt asks Hitler and Mussolini for ten-year peace pledge.
- 20—Mussolini denies aggressive aims.
- 23—British Ambassador returns to Berlin.
- 24—British Cabinet approves conscription.
- 28—Hitler, before Reichstag, derides Roosevelt's plea for peace, abro-

gates 1935 naval treaty with Britain and 1934 non-aggression pact with Poland, demands Danzig's return and road across "Polish Corridor."

##### MAY

- 3—Maxim Litvinoff relieved as Russian Foreign Commissar. Premier Molotoff takes job.
- 5—Poland's Foreign Minister Beck rejects German demand for Danzig and "Corridor" road.
- 11—Chamberlain says German use of force in Danzig means war.

##### JUNE

- 6—Britain sends William Strang to negotiate pact with Russia. His mission later fails.

##### JULY

- 4—President Roosevelt asks arms embargo repeal.

##### AUGUST

- 5—French and British military missions go to Moscow to discuss defensive alliance.
- 12—Italy's Foreign Minister Ciano, Germany's Foreign Minister von Ribbentrop, and Hitler confer at Berchtesgaden.
- 16—Germany demands return of Danzig.
- 20—Russia signs seven-year trade agreement with Germany.
- 21—Berlin announces Foreign Minister von Ribbentrop will go to Moscow to sign non-aggression pact with Soviet.
- 24—Russia and Germany sign ten-year non-aggression pact. France and Britain call up reservists. President Roosevelt sends peace appeals to Germany, Poland and Italy.
- 26—Hitler confers with British Ambassador Nevile Henderson on Poland. Britain and Poland sign military alliances.
- 27—Hitler demands Britain drop Polish alliances.

## CHRONOLOGY OF INTERNATIONAL AFFAIRS, 1939

- 28—Hitler studies British proposal for peaceful solution of Polish question.
- 29—Hitler replies to British proposal.
- 30—Britain replies to Hitler, who says he expects Polish plenipotentiaries in Berlin within 24 hours to settle crisis.
- 31—Germany issues 16-point proposal for Polish settlement; Britain, France and Poland rush mobilization.

### SEPTEMBER

- 1—Germany invades Poland; Danzig annexed; British Parliament summoned; British-German negotiations broken off; Daladier summons French Cabinet; British children evacuated from cities.
- 2—Italy proclaims neutrality; France mobilized; Germans advance in Poland.
- 3—Britain (11 A.M.) and France (5 P.M.) at war with Germany; German air raids on Warsaw; Mussolini suggests conference. President Roosevelt pledges effort to keep America at peace.
- 4—British liner *Athenia* sunk off Hebrides; 125 die. British order naval blockade of Germany. French report "contacts" on Western Front. New Zealand and Australia announce state of war with Germany. Secretary Hull proclaims American neutrality.
- 10—Canada formally declares war on Germany.
- 12—Germans encircle Warsaw.
- 13—President Roosevelt calls Congress on neutrality law revision for Sept. 21.
- 17—Russian troops march into Eastern Poland.
- 18—Submarine sinks British aircraft carrier *Courageous*.
- 21—President Roosevelt asks joint session of Congress to repeal arms embargo.
- 27—Warsaw surrenders after 20-day siege.
- 28—Germans and Russians fix frontiers in Poland. Estonia signs mutual assistance pact with Russia, giving the U.S.S.R. the right to establish air and naval bases in Estonia.

### OCTOBER

- 1—Hitler confers with Foreign Minister Ciano in Berlin.
- 2—Pan-American Conference sets up "sea safety zones" for neutrals in Western Hemisphere.
- 5—Latvia signs pact with Russia similar to Estonia's.
- 9—Finland sends delegation to Moscow to negotiate pact. Troops massed on both sides of Finnish-Russian border.
- 10—Lithuania signs pact with Russia, receives Vilna, gives Moscow right to air, naval bases.
- 18—Turkish-Russian pact talks break down.
- 19—Turkey signs mutual assistance pact with France and Britain.
- 23—German raider *Deutschland* seizes American vessel, *City of Flint*.
- 27—Senate repeals arms embargo by 63 to 30 votes. Pope Pius XII issues first encyclical, urges Poland's restoration, condemns racism.

### NOVEMBER

- 2—House repeals arms embargo by 243 to 181.
- 4—President Roosevelt signs amended neutrality law, closes war zones to American ships and nationals.
- 7—King Leopold of the Belgians and Queen Wilhelmina of Netherlands offer to aid peace.
- 8—Bomb wrecks Munich beer hall, Nazi shrine, a few minutes after Hitler leaves.
- 10—German border incidents alarm Netherlands.
- 14—Finns disturbed by incidents along Russian border.
- 15—Moscow press assails Finnish Government.
- 21—Britain announces blockade of German exports to counter Nazi mine warfare.
- 27—Moscow charges that Finnish artillery fires on Russian troops.
- 28—Finns deny border attacks.
- 29—Secretary Hull offers America's good offices to Russia, Finland.
- 30—Russia invades Finland, bombs Helsinki.

## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

### DECEMBER

- 1—Risto Ryti succeeds Aimo Cajander as Finland's Premier. French Chamber of Deputies extends Daladier's decree powers. President Roosevelt appeals to Russians and Finns not to bomb civilians, unfortified cities.
- 2—Russia sets up "People's Government" for Finland on border.
- 4—Russia rejects Finland's proposal for armistice and peace negotiations.
- 5—Former President Hoover organizes American drive for Finnish relief.
- 10—The United States grants Finland \$10,000,000 credit for agricultural supplies.
- 11—League of Nations asks Russia to cease hostilities against Finns.
- 12—Russia denies state of war with Finland.
- 13—German pocket battleship *Graf von Spee* flees into Montevideo harbor after battle with British cruisers.
- 14—League of Nations expels Russia, offers to coordinate world aid to Finland.
- 17—*Graf Spee* scuttled on Hitler's orders.
- 19—German liner *Columbus* scuttled off American coast.
- 20—Secretary Hull extends "moral embargo" against Russia, Japan.
- 23—President Roosevelt appoints Myron C. Taylor personal representative to Vatican; calls on all faiths to work for peace.

### OTHER EVENTS ABROAD

#### JANUARY

- 5—Baron Kiichiro Hiranuma becomes Japan's Premier.
- 26—Spanish insurgents capture Barcelona.

#### FEBRUARY

- 10—Pope Pius XI dies at 81.

#### MARCH

- 2—Eugenio Cardinal Pacelli elected Pope; takes name of Pius XII.
- 28—Madrid surrenders to Franco; civil war ends.

#### APRIL

- 4—King Ghazi of Iraq killed in auto crash; succeeded by 3-year-old Feisal II.

#### MAY

- 6—George VI and Queen Elizabeth sail for month's visit to Canada and the United States.
- 17—Britain announces new policy in Palestine, limiting Jewish immigration.

#### JUNE

- 14—Japan begins blockade of French and British concessions in Tientsin.

#### JULY

- 24—Prime Minister Chamberlain says Britain will respect "special requirements" of Japan's army in China.

#### AUGUST

- 17—League of Nations Mandate Commission scores Britain's Palestine policy.
- 29—General Nobuyuki Abe succeeds Kiichiro Hiranuma as Japan's Premier.

#### SEPTEMBER

- 22—Armand Calinescu, Rumanian Prime Minister, assassinated by pro-Nazi Iron Guard.
- 24—Japanese launch drive in Hunan Province.

#### OCTOBER

- 20—Ambassador Grew warns Japanese on interference with American rights in China.

#### NOVEMBER

- 22—George Tatarescu, pro-French, made Premier of Rumania.
- 24—Japanese capture Nanning.

#### DECEMBER

- 2—Mexico's Supreme Court upholds expropriation of American-owned oil properties.
- 18—Japan says it will reopen Yangtze River between Shanghai and Nanking to world trade.
- 27—Earthquake disaster in Turkey.

## CHRONOLOGY OF INTERNATIONAL AFFAIRS, 1939

### U. S. FOREIGN RELATIONS

(After adjournment of Congress,  
Aug. 5, 1939)

**Aug. 5**—The United States made a new protest on reported anti-Americanism in Japanese-controlled Chinese cities.

**Aug. 14**—Summer Welles, Under Secretary of State, asserted that continuance of the dispute caused by Mexico's expropriations of American oil properties would constitute a material barrier to maintenance of close and friendly relations between the United States and Mexico.

**Aug. 18**—Canada and the United States reached a reciprocal agreement on commercial air transport services.

**Aug. 22**—Representatives of five governmental departments conferred in the office of Under Secretary of State Welles on ways of cushioning the shock should a European war begin and on plans for bringing home 100,000 Americans then abroad.

**Aug. 24**—President Roosevelt appealed for preservation of world peace to Chancellor Hitler, President Moscicki of Poland and King Victor Emmanuel of Italy.

**Aug. 25**—President Roosevelt sent a new peace plea to Chancellor Hitler; the State Department made public its plans for evacuating Americans from European danger zones as great numbers clamored for bookings on west-bound ships.

**Aug. 28**—The German liner *Bremen*, after arriving with 1,669 passengers, was prevented from immediate return home from New York by Treasury officials, who ordered a check-up to satisfy themselves that she was not violating any law.

**Aug. 29**—President Roosevelt enunciated the policy that vessels of potential belligerents, to get clearance from American ports, must satisfy officials they did not intend to wage offensive warfare at sea.

**Aug. 30**—The Government permitted the *Bremen* to sail.

**Aug. 31**—The Government prepared regulations to govern foreign and

domestic planes in this country in wartime and to prevent arming and outfitting of air privateers by belligerents; Attorney General Murphy revealed that the Department of Justice was pressing its anti-spy campaign.

**Sept. 1**—President Roosevelt urged five European powers to refrain from bombing civilians in the event of war.

**Sept. 2**—President Roosevelt and Secretary Hull deferred their decision about proclaiming the existence of a state of war in Europe and thus bring the then existing Neutrality Act into effect until after the Sept. 3 meeting of the British Parliament.

**Sept. 4**—On the heels of the sinking of the liner *Athenia* the United States took the first sweeping step to insure neutrality in the European war when Secretary Hull issued an order drastically restricting travel by Americans to and from Europe.

**Sept. 5**—Two neutrality proclamations were issued by the President. One imposed an immediate embargo on shipment of arms and munitions to Germany, France, Poland and the United Kingdom; the other barred the use of American territorial waters to belligerents for warlike purposes. The President, rejecting the use of convoys, decided that American ships should sail plainly marked to warn attackers.

**Sept. 6**—The President called on all local law enforcement agencies to join with the FBI in its spy hunt; the United States coast patrol swung into action as the President set up a special service to enforce neutrality at sea.

**Sept. 8**—President Roosevelt proclaimed that a "limited national emergency" existed in the United States in connection with the European war; he ordered the Army, Navy and Marine Corps increased by 100,000 men.

**Sept. 10**—The President proclaimed an arms embargo against Canada as that Dominion declared war on Germany.



## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

- Sept. 13—President Roosevelt summoned Congress to meet in extra session Sept. 21 to consider revision of the Neutrality Act.
- Sept. 14—Senator Borah, in a radio talk outlining the line of attack to be taken by foes of the Administration plan for revising the Neutrality Act, declared that repeal of the arms embargo provisions would amount to putting the United States into the European war.
- Sept. 15—Henry L. Stimson, former Secretary of State, and Nicholas Murray Butler opposed Senator Borah's stand on revision of the Neutrality Act; Charles A. Lindbergh, in radio talk, urged the United States to keep out of the war, saying that to enter would be to court disaster; Herbert Hoover proposed that a neutral board be created to observe and report attacks on non-combatants; Under Secretary of State Welles left for the Panama Neutrality Conference of 21 American republics.
- Sept. 18—President Roosevelt, replying to a protest from President Moseicki of Poland, renewed his plea that belligerents refrain from bombing civilian areas.
- Sept. 21—Congress met in special session to consider neutrality legislation; the President, addressing the session in person, advocated the repeal of the arms embargo and a return to the principles of international law as the surest safeguard against involvement of the United States in the European war; hard fight against the President's recommendations indicated as 24 Senators mapped resistance; Secretary Hull, in a speech at the New York World's Fair, declared that 21 American republics were ready to defend themselves against any threat to security.
- Sept. 23—The State Department issued rules tightening control over foreign agents operating in the United States.
- Sept. 27—Acting Secretary of State Welles, in Panama, cabled recommendations for United States loans to Bolivia and Panama.
- Sept. 28—Senate Foreign Relations Committee, by vote of 16—7, approved and sent to the Senate the Pittman resolution to repeal the arms embargo and substitute a strict "cash-and-carry" system for all American commerce with warring nations.
- Sept. 30—The Senate Foreign Relations Committee, in a formal report on the new neutrality resolution, contended that repeal of the arms embargo was necessary to maintain the neutrality of the United States under international law which had obtained from "time immemorial"; the Foreign Ministers of the American republics, in conference at Panama, created a permanent advisory committee of 21 experts, one for each republic, to sit in Washington for the duration of the European war to consider best means to lessen its effects on the Americas.
- Oct. 1—Alfred E. Smith called on the nation to stand behind the President's fight to lift the arms embargo.
- Oct. 2—The Senate opened debate on the administration's proposal to repeal the embargo; Germany asked the United States to warn American merchant ships that they must submit to halt and search by warcraft; full plenary meeting of delegates of the 21 American republics at Panama approved the Declaration of Panama proclaiming a broad safety zone in American waters for inter-American shipping and a general declaration of neutrality in the European war.
- Oct. 4—Information pointing to the prospect of unrestricted sea warfare led Secretary Hull to warn American merchant ships to avoid Atlantic and Baltic waters adjacent to nations at war; he refused to recognize the validity of "unrestricted interference with American ships and commerce."
- Oct. 5—Chairman Land of the Maritime Commission denied that the United States would patrol the Pan-American sea "safety zone"; Grand Admiral Erich Raeder, head of the German Navy, sent word to the

## CHRONOLOGY OF INTERNATIONAL AFFAIRS, 1939

- United States Government through the American naval attaché at Berlin that he had information the American ship *Iroquois*, then at sea bringing 776 passengers to America, would be sunk when it neared the American coast under circumstances similar to the sinking of the *Athenia*, implying an Allied plot; the American Government ordered a naval convoy to meet the *Iroquois* and accompany her to port.
- Oct. 6—Berlin circulated reports that if President Roosevelt should come forward with a proposal for an armistice, Hitler would accept.
- Oct. 7—Hitler's unofficial armistice proposal received coolly at Hyde Park.
- Oct. 9—Senator Johnson of Colorado launched a movement in the Senate to suspend debate on the Neutrality Resolution pending the outcome of peace efforts by President Roosevelt in the European war; Administration denied that the President had made a peace bid.
- Oct. 10—Senate supporters of the Administration won a victory in the Senate's first test vote on the Neutrality Resolution, 65 to 26; Secretary Hull, addressing the National Foreign Trade Convention, declared the United States was "devoting every ounce of energy and vigilance" to maintain its neutral status and was joined by all other American republics in a determination to keep war away from the Western Hemisphere.
- Oct. 11—Convoyed by American destroyers and Coast Guard vessels, the liner *Iroquois* arrived safely.
- Oct. 12—The United States, through Ambassador Steinhardt at Moscow, appealed to Russia in behalf of Finland; President Roosevelt appealed to all voluntary relief groups aiding European war sufferers to coordinate their activities with those of the American Red Cross.
- Oct. 13—Colonel Lindbergh, in another radio speech, advocated an embargo on "offensive" weapons and munitions, unrestricted sale by the United States of "purely defensive" armaments, and refusal of credit to all warring nations or their agents; President Roosevelt ordered an intensive survey of Latin-American trade possibilities.
- Oct. 14—Senate debate on the Neutrality Bill turned into a free-for-all discussion of Colonel Lindbergh's radio speech, three Administration leaders accusing him of inconsistency; Senator Lundeen stirred a storm by proposing that we seize British islands in the West Indies.
- Oct. 16—Administration forces in the Senate decided to eliminate the 90-day credit clause from the neutrality resolution and put commerce between the United States and belligerents strictly on a "cash-on-the-barrel-head" basis.
- Oct. 18—President Roosevelt issued a proclamation closing United States ports and territorial waters to belligerent submarines; Washington put its moral support behind the Stockholm Conference of Northern States through a message from President Roosevelt to King Gustav of Sweden supporting the principle of "order under law"; United States marines ended their Kulangsu patrol in China after an accord with Japan.
- Oct. 19—Ambassador Grew at Tokyo asserted, in a speech, that American opinion deeply resented the "bombings, indignities and manifold interferences with American rights" in China at the hands of the Japanese Army.
- Oct. 20—President Roosevelt, explaining at Hyde Park his proclamation barring submarine activities within the three-mile limit, warned that this was not intended to define this nation's "territorial waters" and asserted that the extent of our sea frontier would be determined by the nation's interests; Herbert Hoover insisted in a broadcast that his plan to ban sale of "offensive" weapons by the United States but permit sale of "defensive" ones was feasible; Colonel Lindbergh was accused by Senator Brown of Michigan of having dealt a "gratuitous

## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

- insult" to a sister nation in his speech criticizing Canada's role in the war.
- Oct. 23—A German warship captured the American freighter *City of Flint*, put a prize crew aboard and sailed her around the top of Scandinavia to the Russian port of Murmansk.
- Oct. 25—Soviet Foreign Office informed Ambassador Steinhardt that 41 officers and crew of the *Flint* were safe on board at Murmansk; State Department report showed that the declaration of neutrality, with its attendant ban on arms exports, had forced revocation of export licenses covering munitions valued at \$78,908,525.33.
- Oct. 26—After Secretary Hull had pressed the Soviet Government for a prompt reply to his demand that the *City of Flint* be released with her crew and cargo, Moscow declared that the ship had left Murmansk on Russian orders; Administration forces won three successive tests in the Senate on the arms embargo issue; President Roosevelt, in a broadcast denouncing the talk of "sending the boys of American mothers to fight on the battlefields of Europe," declared that this country was neutral and intended to remain so.
- Oct. 27—The Senate passed the Pittman Neutrality Resolution, 63 to 30, repealing the arms embargo and placing commerce between the United States and belligerent nations on a "cash-and-carry" basis; the United States Government made indignant protest to Moscow against "lack of cooperation" by the Soviet Government in withholding information regarding the *City of Flint*; President Roosevelt spurred a movement for the lowering of Latin-American debts.
- Oct. 29—Senator Glass asserted that only one person—"this wretched creature, A. Hitler"—could get the United States into war and that it was "sheerest drivel" to say that the President could involve the nation in foreign conflict, as only Congress had power to declare war.
- Oct. 30—Over protest by the German Government, which sought in vain through the State Department to prevent final action, the German Mixed Claims Commission announced awards totalling \$49,991,242 to American claimants in the Black Tom and Kingsland sabotage cases; the Administration sought a new formula with which to deal with readjustment of Latin-American debts as a basis for extension of credits to the Pan American republics; the *City of Flint*, with the Nazi swastika flying at her mast, sailed from Tromsøe, Norway, headed toward some German port through the perils of the Allied naval blockade.
- Oct. 31—Premier Molotoff, addressing the Supreme Soviet, criticized President Roosevelt's intervention in the Russo-Finn negotiations, as well as the Washington move to repeal the arms embargo, and accused Mr. Roosevelt of being a "meddler"; the House, by vote of 237 to 177, sustained the leadership's plan to send the Neutrality Resolution to a conference with the Senate.
- Nov. 1—The White House suggested that Molotoff had timed his speech before the Supreme Soviet to influence the vote in the House on neutrality revision; Alf M. Landon criticized the Declaration of Panama as setting up "a hazy new zone on the high seas" which raised many questions "full of peril to our neutral position."
- Nov. 2—The House voted in favor of repealing the arms embargo, 243 to 181.
- Nov. 3—Congress gave final approval to the Neutrality Resolution when the Senate adopted the conference report by a vote of 55 to 24 and the House by a vote of 243 to 172; Congress adjourned *sine die*; the Norwegian Government released the *City of Flint* and interned her German prize crew; President Roosevelt struck back at Premier Molotoff by saying he never believed that bad manners should beget bad manners.



## CHRONOLOGY OF INTERNATIONAL AFFAIRS, 1939

- Nov. 4—Lifting of the arms embargo was legally completed when President Roosevelt signed the Neutrality Resolution and issued two proclamations designed to protect the United States in the new situation and establishing a "combat area" in European war zones into which American ships and nationals would not be permitted to proceed except under conditions laid down in regulations.
- Nov. 5—The Norwegian Government formally rejected Germany's protest demanding return of the *Flint* and the release of her interned Nazi prize crew.
- Nov. 6—Secretary Hull issued neutrality rules for travel and shipping.
- Nov. 8—President Roosevelt held up the transfer of eight United States Lines ships to Panama registry pending a determination that they were not important to national defense and of other questions; Senate isolationists attacked the proposed transfer.
- Nov. 13—The Irish Free State complained to the State Department that it had been injured when the United States put it into a "combat zone" from which American ships were barred under the Neutrality Resolution.
- Nov. 14—President Roosevelt indicated he would veto the Maritime Commission's approval of plans to transfer eight United States Lines ships to Panama registry; Under Secretary of State Welles was chosen chairman of the Inter-American Financial and Economic organization meeting at Washington.
- Nov. 16—The State Department issued a detailed analysis of the "cash-and-carry" section of the new neutrality law.
- Nov. 17—Acting Secretary of State Welles ruled, in a test case, that planes bought here by Great Britain and France could not be flown across the Atlantic for delivery. Germany and all her absorbed territories were placed on the United States Government's tariff black-
- list by President Roosevelt in proclaiming the reciprocal trade agreement between the United States and Venezuela; an assertion by a Japanese Foreign Office spokesman that the United States Government had admitted in official communications that America was not blind to new realities in east Asia was met with a reaffirmation of American rights in China by Under Secretary of State Welles.
- Nov. 19—The State Department issued an order imposing more rigid restrictions on Americans seeking to travel in combat areas and on belligerent vessels.
- Nov. 20—Under Secretary Welles asserted that the United States insisted upon the right of American merchants freely to use the British and French concessions at Tientsin, China for trade without interference from the Japanese.
- Nov. 21—Announcement was made that a "navicert" system under which Great Britain would exercise supervision in United States ports over American exports to European neutral countries had been agreed upon through exchange of notes between the British Embassy and the State Department to facilitate passage of American goods through blockaded waters without diversion to British ports for contraband examination.
- Nov. 22—Under Secretary Welles said that the United States was giving consideration to trade relations with Japan, among other questions, but our course with reference to a new commercial treaty, or some temporary arrangement, to govern relations between the two nations after expiration of the Commercial Treaty of 1911 would depend upon developments.
- Nov. 27—Secretary Hull declared that the United States reserved all its rights under international law in all matters pertaining to the European war, including the British blockade of German exports; he expressed gratification at a statement by Prime Minister Chamberlain that



## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

"there can be no peace unless there is a full and constant flow of trade between nations."

Nov. 29—Secretary Hull, after getting into touch with the President at Warm Springs, made a tender of good offices of the United States to Russia and Finland in an effort to end their dispute and prevent a clash.

Dec. 1—President Roosevelt condemned Russia's invasion of Finland, branding it a "wanton disregard of law."

Dec. 2—President Roosevelt proclaimed a "moral embargo" upon the sale to Russia of United States planes and equipment that might be used in bombing civilians and open cities; former President Hoover urged the recall of the American Ambassador from Moscow; Mexico's Supreme Court, in a unanimous decision, upheld the constitutionality of the expropriation of the property of 17 oil companies.

Dec. 4—Senator Vandenberg demanded that the United States sever diplomatic ties with Russia and condemned President Roosevelt for establishing them in 1933; Secretary Hull decided to confer with representatives of American oil companies whose Mexican properties, on which they set a value of \$150,000,000 had been expropriated, before determining what action to take as a result of the Mexican Supreme Court's decision upholding the expropriation; J. Butler Wright, American Ambassador to Cuba, died at Havana.

Dec. 5—Washington indicated that if the nations of this hemisphere got together on a joint declaration denouncing Russia's invasion of Finland the United States would be willing to add its voice; President Roosevelt disclosed plans for aiding Finland by permitting use of the Dec. 15 payment on her war debt to this country for the benefit of the Finnish people, subject to approval by Congress; Assistant Secretary of State Berle declared that the American republics were

safe, even in the world of today, "when they act together with a common respect for each other and a common will in mutual defense."

Dec. 6—Further indication that the United States would give all possible aid to Finland short of war or a breach of neutrality was given in an unusually warm message sent by President Roosevelt to President Kallio on the twenty-second anniversary of Finland's independence; Joseph P. Kennedy, American Ambassador to the Court of St. James, arrived on the *Dixie Clipper* to consult with the President and Secretary Hull; United States Government decided to make a broad reservation of American rights in a note to Great Britain setting forth the United States position with regard to the seizure of German exports.

Dec. 7—Secretary of Treasury Morgenthau said that negotiations were pending with Finland for an export-import bank credit.

Dec. 8—Ambassador Kennedy conferred with the President, to whom he submitted a first-hand report on the European situation; Secretary Hull requested Great Britain, by note, to refrain from applying to American ships and goods her control program for German exports and reserved all American rights with a warning that failure to respect the American position might present a basis for claims; former President Hoover set up headquarters in New York for Finnish relief.

Dec. 10—The United States Government granted a credit of \$10,000,000 through the Export-Import Bank and RFC to enable Finland to buy agricultural surpluses and other civilian supplies here; Ambassador Kennedy, in a Boston speech, strongly urged the United States to "keep out of the war."

Dec. 13—It was revealed that Joseph E. Davies would resign as Ambassador to Belgium and take a place in the State Department's special division dealing with war emergencies.

## PERIODICAL PUBLICATIONS

- Dec. 14—Secretary Hull indicated that the American republics might consult on the question of the possible "invasion" of the neutral sea zone about the Western Hemisphere in the fight of Dec. 12 between the German pocket battleship *Graf Spee* and three British cruisers.
- Dec. 15—The State Department added aluminum and molybdenum to the list of materials under moral embargo to nations which bomb and machine-gun civilians and towns from the air.
- Dec. 16—The Federal Government indicted three men as non-registered Soviet agents.
- Dec. 17—It was revealed that a plan to prevent war by cornering essential raw materials and withholding them from aggressors was proposed by Secretary Morgenthau last spring, but that the cost killed the idea.
- Dec. 18—The Navy Department yielded priority on deliveries to enable Finland to obtain more than 40 of the latest and speediest American fighting planes.
- Dec. 19—The Coast Guard cruiser *Tuscaloosa*, 450 miles out, found the German liner *Columbus* being scuttled by her crew, with a British cruiser close by; the German freighter *Aracau* was pursued off Florida by a British cruiser and took refuge at Fort Lauderdale; Under Secretary Welles, in a speech, bitingly referred to Russia's methods of insuring the "political freedom and independence" of Finland and ridiculed Premier Molotoff's statement that Cuba was not independent of the United States.
- Dec. 20—Secretary Hull extended the moral embargo on munitions by announcing a ban, aimed at Russia and Japan, on export of devices for improving aircraft fuel would apply to all countries whose forces bomb civilians; the United States Government ruled that the 577 survivors of the crew of the scuttled liner *Columbus* were distressed seamen entitled to land in the United States and remain 60 days.
- Dec. 21—Two Public Health Service experts, with the approval of President Roosevelt, were ordered to Red Cross duty in Finland to combat typhus danger.
- Dec. 23—President Roosevelt named Myron C. Taylor as his personal representative at the Vatican to work with Pope Pius XII, and called upon the Pontiff and Protestant and Jewish leaders to co-operate toward ending the war in Europe. The United States Government and 20 other American republics issued a joint protest to France, Great Britain and Germany against the battle involving the *Graf Spee*, and other "violations" of the safety zone around the Western Hemisphere.
- Dec. 25—The German Consul at Colon protested against the clearance of the Nazi freighter *Duesseldorf* in charge of a British prize crew, but Major Gen. David L. Stone, commander of the Panama Canal Zone, declared she was free to leave.
- Dec. 26—Pope Pius XII sent assurances to President Roosevelt that Myron C. Taylor would be cordially welcomed at the Vatican in manner befitting the highly important mission of peace entrusted to him.

## PERIODICAL PUBLICATIONS

- |  |   |
|--|---|
| <p><i>American Journal of International Law</i><br/>700 Jackson Place, Washington, D.C.</p> <p><i>Current History Magazine</i><br/>63 Park Row, New York City.</p> | <p><i>Events</i><br/>1133 Broadway, New York City.</p> <p><i>Foreign Affairs</i><br/>45 East 65th. Street, New York City.</p> |
|--|---|

## II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

### *Foreign Policy Bulletin*

8 West 40th. Street, New York City.

### *Foreign Policy Reports*

8 West 40th. Street, New York City.

### *Living Age*

63 Park Row, New York City.

### *Pacific Affairs*

129 East 52nd. Street, New York City.

### *Pan American Union Bulletin*

Pan American Union, Washington D.C.

### *Time*

350 East 22nd. Street, Chicago.

### *World Affairs*

734 Jackson Place, Washington, D.C.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

### GENERAL

ACADEMY OF POLITICAL SCIENCE, Fayerweather Hall, Columbia University, New York City.

AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE, 3457 Walnut St., Philadelphia, Pa.

AMERICAN ARBITRATION ASSOCIATION, 8 West 40th St., New York City.

AMERICAN PEACE SOCIETY, 734 Jackson Place, Washington, D.C.

AMERICAN POLITICAL SCIENCE ASSOCIATION, 305 Harris Hall, Northwestern University, Evanston, Ill.

AMERICAN SOCIETY OF INTERNATIONAL LAW, 700 Jackson Place, N.W., Washington, D.C.

CARNEGIE ENDOWMENT FOR INTERNATIONAL PEACE, 700 Jackson Place, N.W., Washington, D.C.

COUNCIL ON FOREIGN RELATIONS, INC., 45 East 65th Street, New York City.

FOREIGN POLICY ASSN., 8 West 40th Street, New York City.

INTERNATIONAL REFORM FEDERATION, 134 B St., N.E., Washington, D.C.

LEAGUE OF NATIONS ASSN., 8 West 40th St., New York City.

NATIONAL COUNCIL FOR PREVENTION OF WAR, 532 17th St., N.W., Washington, D.C.

PEOPLE'S LOBBY, INC., 817 Fourteenth St., N.W., Washington, D.C.

WOMEN'S INTERNATIONAL LEAGUE FOR PEACE AND FREEDOM, 150 Fifth Ave., New York City.

WOMEN'S PEACE UNION, 2 Stone St., New York City.

WORLD PEACE FOUNDATION, 40 Mount Vernon St., Boston, Mass.

### REGIONAL

AMERICAN ASIATIC ASSN., 1 Hanover Square, New York City.

CHINA SOCIETY OF AMERICA, 570 Lexington Ave., New York City.

COMMITTEE ON COOPERATION IN LATIN AMERICA, 254 Fourth Ave., New York City.

ENGLISH-SPEAKING UNION OF THE UNITED STATES, 30 Rockefeller Plaza, New York City.

FAR EAST CONFERENCE, 21 West St., New York City.

FRENCH INSTITUTE IN THE UNITED STATES, 22 East 60th St., New York City.

FRIENDS OF IRISH FREEDOM, 132 East 16th St., New York City.

JAPAN SOCIETY, INC., 527 Fifth Ave., New York City.

NETHERLAND-AMERICA FOUNDATION, 630 Fifth Ave., New York City.

PAN-AMERICAN SOCIETY, INC., 67 Broad St., New York City.

PAN-PACIFIC UNION, 1067 Alahea St., Honolulu, Hawaii.

# PART TWO

## AMERICAN GOVERNMENT

### DIVISION III

### THE NATIONAL GOVERNMENT

#### FEDERAL ADMINISTRATIVE ORGANIZATION

BY WILLIAM M. SCHUYLER

EDITOR, *The American Year Book*

#### THE PRESIDENT AND VICE-PRESIDENT

**President.**—Franklin Delano Roosevelt, of New York (Democrat). Sworn into office as President of the United States, March 4, 1933, in succession to Herbert Hoover, and inaugurated for second term Jan. 20, 1937.

**Vice President.**—John Nance Garner of Texas (Democrat), inaugurated Vice President of the United States, March 4, 1933, and inaugurated for a second term Jan. 20, 1937.

**Executive Office of the President.**—

White House Office—Marvin Hunter McIntyre (Kentucky), Stephen Early (Virginia), Brigadier General Edwin Martin Watson (Alabama), Secretaries; Marguerite A. Le Hand, Personal Secretary to the President.

Bureau of the Budget—Harold D. Smith, Director.

Central Statistical Board—Stuart A. Rice, Chairman.

National Resources Planning Board—Frederic A. Delano, Chairman.

Office of Government Reports—Lowell Mellett, Director.

Division of Press Intelligence—(Vacant), Director.

U. S. Information Service—Harriet M. Root, Chief.

Liaison Office for Personnel Management—William H. McReynolds, Liaison Officer.

**Presidential Vacancy.**—By Act of Congress, in the case of vacancy occurring in the office of President through the death or removal of both the President and Vice President, the Cabinet Officers succeed to the Presidency in the order indicated in the arrangement of the following summary of the executive departments:

#### DEPARTMENT OF STATE

**Secretary of State.**—Cordell Hull.

**Under Secretary of State.**—Sumner Welles.

**Assistant Secretaries of States.**—Adolf A. Berle, Jr., Henry F. Grady, Breckinridge Long.

**Foreign Service Personnel Board.**—(Vacant), chairman.

**Legal Adviser.**—Green H. Hackworth.

**Counselor.**—R. Walton Moore.

**Economic Adviser.**—Herbert Feis.

**Advisers on Political Relations.**—James C. Dunn, Stanley K. Hornbeck.

**Chief Clerk and Administrative Assistant.**—Edward Yardley.

**Assistant to the Secretary of State.**—Cecil W. Gray.



### III. THE NATIONAL GOVERNMENT

#### Chiefs of Divisions.—

Far Eastern Affairs.—Maxwell M. Hamilton.

American Republics.—Laurence Duggan.

European Affairs.—Jay Pierrepont Moffat.

Near Eastern Affairs.—Wallace Murray.

Passport.—Ruth B. Shipley.

Current Information.—Michael J. McDermott.

Foreign Service Administration.—Nathaniel P. Davis.

Foreign Service Personnel.—G. Howland Shaw.

Protocol.—George T. Summerlin.

International Communications.—Thomas Burke.

International Conferences.—Warren H. Kelchner (acting).

Treaty.—Charles M. Barnes.

Research and Publication.—E. Wilder Spaulding.

Trade Agreements.—Harry C. Hawkins.

Visa.—Avra M. Warren.

Communications and Records.—David A. Salmon.

Cultural Relations.—Ben M. Cherrington.

Accounts.—Donald W. Corrick (acting).

Controls.—Joseph C. Green.

Special.—Breckinridge Long.

#### Chiefs of Offices.—

Arms and Munitions Control.—Joseph C. Green.

Consular Commercial.—James J. Murphy, Jr.

Editor of Treaties.—Hunter Miller.

Co-ordination and Review.—Blanche Rule Halla.

Fiscal and Budget Affairs.—Charles B. Hosmer.

Foreign Service Buildings.—Friedrick Larkin.

Foreign Service Officers' Training School.—J. Klahr Huddle.

Philippine Affairs.—Joseph E. Jacobs.

Committee for Reciprocity Information.—Oscar B. Ryder, Chairman.

National Munitions Control Board.—Secretary of State, Chairman.

#### DEPARTMENT OF THE TREASURY

**Secretary of the Treasury.**—Henry Morgenthau, Jr.

Charged with the management of the national finances; prepares plans for the improvement of the revenue and support of the public credit; superintends collection of the moneys paid from and into the Treasury; controls construction of public buildings, coinage and printing of money, and the administration of the Coast Guard and the Public Health Service; *ex-officio* chairman of the Federal Reserve Board.

**Under Secretary of the Treasury.**—Daniel W. Bell.

**Assistant Secretary.**—John L. Sullivan.

**Assistant Secretary in Charge of Coast Guard, Narcotics, and Secret Service.**—Herbert E. Gaston.

**Director of Personnel.**—E. R. Balinger.

**Special Assistants to the Secretary.**—James H. Moyle, Basil Harris, Harold N. Graves, Eugene S. Duffield, Joseph P. Cotton, Jr.

**Administrative Assistant to the Secretary.**—W. N. Thompson.

**Chief Clerk.**—F. A. Birgfeld.

**Commissioner of the Public Debt Service.**—William S. Broughton.

**Commissioner of Accounts and Deposits.**—E. F. Bartlett.

**General Counsel.**—Edward H. Foley, Jr.

#### Chiefs of Divisions.—

Appointments.—James E. Harper.

Savings Bonds.—Eugene W. Sloan.

Printing.—L. C. Spangler.

Correspondence.—Gabrielle E. Forbush.

Monetary Research.—Harry D. White.

Tax Research.—Roy Blough.

Research and Statistics.—George C. Haas.

Secret Service.—Frank J. Wilson.

Procurement.—H. E. Collins.

Chief Disbursing Officer.—Guy F. Allen.

**Comptroller of the Currency.**—Preston Delano.

Has supervision of the national banks, their examination and reports; preparation and issue of national bank

## FEDERAL ADMINISTRATIVE ORGANIZATION

circulation; redemption and destruction of national bank notes. *Ex-officio* member of the Federal Reserve Board.

**Treasurer of the United States.**—William A. Julian.

Charged with the receipts and disbursement of all public moneys deposited in the Treasury and Sub-Treasuries and in national banks depositories.

**Commissioner of the Bureau of Customs.**—Basil Harris.

**Commissioner of the Bureau of Internal Revenue.**—Guy T. Helvering.

Charged with general supervision of the collection of all internal revenue taxes, including the income tax, and the enforcement of internal revenue laws.

**Federal Alcohol Administration.**—W. S. Alexander, Administrator.

**Director of the Bureau of the Mint.**—Nellie Tayloe Ross.

Has general supervision of the mints and assay offices.

**Commissioner of Narcotics.**—H. J. Anslinger.

**Register of the Treasury.**—Edward G. Dolan.

**Director of the Bureau of Engraving and Printing.**—Alvin W. Hall.

Produces all the securities and similar work of the Government printed from steel plates.

**Coast Guard.**—Rear Admiral Russell R. Waesche, Commandant.

**Custom House.**—Franklin A. M. Shafer, Deputy Collector in Charge.

**Committee on Enrollment and Disbarment.**—G. C. Hanna, Chairman.

**Processing Tax Board of Review.**—William Schwartz, Chairman.

### DEPARTMENT OF WAR

**Secretary of War.**—Harry Hines Woodring.

**The Assistant Secretary of War.**—Louis Johnson.

**Administrative Assistant and Chief Clerk.**—John W. Martyn.

**Executive Assistant to the Secretary of War.**—Charles W. Koester.

**Clerk to the Secretary of War.**—John W. Schott.

**War Department General Staff.**—

General George C. Marshall, Chief of Staff; Brigadier General Lorenzo D. Gasser, Deputy Chief of Staff.

**Office of the Chief of Cavalry.**—Major General John K. Herr, Chief.

**Chief of Field Artillery.**—Major General Robert M. Danford.

**Chief of Coast Artillery.**—Major General Archibald H. Sunderland.

**Chief of Infantry.**—Major General George A. Lynch.

**Chief of Chaplains.**—William R. Arnold.

**The Adjutant General.**—Major General Emory S. Adams.

**The Inspector General.**—Major General Walter L. Reed.

**The Judge Advocate General.**—Major General Allen W. Gullion.

**The Quartermaster General.**—Major General Henry Gibbins.

**Chief of Finance.**—Major General Fred W. Boschen.

**Surgeon General.**—Major General James C. Magee.

**Chief of Engineers.**—Major General Julian L. Schley.

**Chief of Ordnance.**—Major General C. M. Wesson.

**Chief Signal Officer.**—Major General J. O. Mauborgne.

**Chief of the Air Corps.**—Major General H. H. Arnold.

**Director of Aircraft Production.**—Col. Henry W. Harms.

**Chief of the National Guard Bureau.**—Major General Albert H. Blanding.

**Chief of the Chemical Warfare Service.**—Major General Walter C. Baker.

**The Army War College.**—Brigadier General Philip B. Peyton, Commandant.

**The Army Industrial College.**—Lt. Col. F. H. Miles, Jr., Director.

### DEPARTMENT OF JUSTICE

**Attorney General.**—Robert H. Jackson.

Represents the United States in all legal matters.

**Solicitor General.**—Francis Biddle.

**Assistant to the Attorney General.**—Edward G. Kemp.

**Assistant Attorneys General.**—Thurman W. Arnold, Samuel O.

### III. THE NATIONAL GOVERNMENT

Clark, Francis M. Shea, O. John Rogge, Norman M. Littell.

**Assistant Attorney General, Division of Customs.**—Webster J. Oliver.  
**Special Assistant Attorney General.**—Matthew F. Maguire.

**Director of the Bureau of Investigation.**—J. Edgar Hoover.

**Director of the Bureau of Prisons.**—James V. Bennett.

**Federal Prison Industries, Inc.**—Sanford Bates, President.

**Executive Assistant to the Attorney General.**—G. Mennen Williams.

**Administrative Assistant.**—Thomas D. Quinn.

**General Agent.**—Herbert J. McClure.

**Chief Clerk.**—Harvey C. Donaldson.

**Appointment Clerk.**—John C. Hill.

**Chief of the Division of Records.**—Bennett Crain (acting).

**Chief of the Division of Supplies and Printing.**—John F. Holland.

**Director of Information.**—Robert M. Gates.

**Librarian.**—Matthew A. McKavitt.

**Pardon Attorney.**—Daniel M. Lyons.

**Board of Parole.**—Arthur D. Wood, T. Webber Wilson, Edward P. Reidy.

#### POST OFFICE DEPARTMENT

**Postmaster General.**—James A. Farley.

**Executive Assistant to the Postmaster General.**—J. Austin Latimer.

**Special Assistant to the Postmaster General.**—William J. Bray.

**Administrative Assistant to the Postmaster General.**—William C. Lyons.

**Secretary to the Postmaster General.**—Thomas W. S. Davis.

**First Assistant Postmaster General.**—William W. Howes.

**Second Assistant Postmaster General.**—Ambrose O'Connell.

**Third Assistant Postmaster General.**—Ramsey S. Black.

**Fourth Assistant Postmaster General.**—Smith W. Purdum.

**Comptroller and Budget Officer.**—William L. Slattery.

**Director of Parcel Post.**—John A. Brennan.

**Solicitor.**—Vincent M. Miles.

**Chief Post Office Inspector.**—Kildroy P. Aldrich.

**Superintendent of Air Mail Service.**—Charles P. Graddick.

#### DEPARTMENT OF THE NAVY

**Secretary of the Navy.**—Charles Edison.

**Assistant Secretary of the Navy.**—Vacant.

**Administrative Assistant and Chief Clerk.**—William D. Bergman.

**Chief of Division of Records.**—Charles M. Baruch.

**Budget Officer.**—Capt. Ezra G. Allen.

**Director of Shore Establishments.**—Capt. C. W. Fisher.

**Island Governments.**—Capt. Roscoe E. Schuirmann.

**Guam.**—Capt. James T. Alexander, Governor.

**American Samoa.**—Commander E. W. Hanson, Governor.

**Chief of Naval Operations.**—Admiral Harold R. Stark.

**Chief of the Bureau of Navigation.**—Rear Admiral Chester W. Nimitz.

**Chief of the Bureau of Yards and Docks.**—Rear Admiral Ben Moreell.

**Chief of the Bureau of Ordnance.**—Rear Admiral W. R. Furlong.

**Chief of the Bureau of Construction and Repair.**—Rear Admiral Alexander H. Van Keuren.

**Chief of the Bureau of Engineering.**—Rear Admiral Samuel M. Robinson.

**Chief of the Bureau of Supplies and Accounts.**—Rear Admiral Ray Spear.

**Chief of the Bureau of Medicine and Surgery.**—Rear Admiral Ross T. McIntire, Surgeon General.

**Chief of the Bureau of Aeronautics.**—Rear Admiral John H. Towers.

**Judge Advocate General.**—Rear Admiral W. B. Woodson.

**Naval Consulting Board.**—Thomas Robins, Secretary.

**Compensation Board.**—Rear Admiral Ivan E. Bass, Senior Member.

**General Board.**—Rear Admiral W. R. Sexton, Chairman.

**President of the Board of Medical Examiners.**—Rear Admiral Benjamin H. Dorsey.

## FEDERAL ADMINISTRATIVE ORGANIZATION

**President of the Naval Examining and Retiring Boards.**—Rear Admiral John Downes.

**Naval Dispensary.**—Captain Robert E. Hoyt, Medical Corps.

**Navy Yard and Station, Washington, D.C.**—Rear Admiral George Pettengill, Commandant.

**Naval Medical Center.**—Rear Admiral Harold W. Smith, commanding officer.

**Naval Medical School.**—Captain William Chambers, commanding officer.

**Naval Hospital.**—Captain Edgar L. Woods, commanding officer.

**President of the Board for Examination of Medical Officers.**—Captain William Chambers.

**President of the Board of Examination of Dental Officers.**—Captain William Chambers.

**Headquarters Marine Corps.**—Major General Thomas Holcomb, Commandant.

**Naval Examining Board (Marine Corps).**—Col. Charles F. B. Price, President.

**Marine Barracks.**—Col. William H. Rupertus, commanding.

### DEPARTMENT OF THE INTERIOR

**Secretary of the Interior.**—Harold L. Ickes.

Charged with pensions, public lands, Indian Affairs, geological surveys, reclamation of arid lands, and mines.

**Under Secretary.**—(Vacant).

**First Assistant Secretary.**—Ebert K. Burlew.

**Assistant Secretary.**—Oscar L. Chapman.

**Chief Clerk.**—Floyd E. Dotson.

**Solicitor.**—Nathan R. Margold.

**Director of Classification.**—John Harvey.

**Commissioner of the General Land Office.**—Fred W. Johnson.

**Commissioner of the Office of Indian Affairs.**—John Collier.

**Director of the Geological Survey.**—W. C. Mendenhall.

**Commissioner of the Bureau of Reclamation.**—John C. Page.

**Director of the National Park Service.**—Arno B. Cammerer.

**Director of the Bureau of Mines.**—John W. Finch.

**Division of Territories and Island Possessions.**—(Vacant).

**Territorial Officials.**—

Alaska.—Ernest Gruening, Governor.

Hawaii.—Joseph B. Poindexter, Governor.

Virgin Islands.—Lawrence W. Cramer, Governor.

Puerto Rico.—William D. Leahy, Governor.

**The Alaska Railroad.**—Otto F. Ohlson, General Manager.

**Oil Administration.**—Harold L. Ickes, Secretary of the Interior, Administrator.

### DEPARTMENT OF AGRICULTURE

**Secretary of Agriculture.**—Henry A. Wallace.

**Under Secretary.**—M. L. Wilson.

**Assistant Secretary.**—Harry L. Brown.

**Assistants to the Secretary.**—Paul H. Appleby, James D. Le Cron, James L. McCamy, Leon O. Wolcott.

**Agricultural Adjustment Administration.**—R. M. Evans, Administrator.

**Agricultural Marketing Service.**—C. W. Kitchen, Chief.

**Director of Extension Work.**—C. W. Warburton.

**Director of Research.**—James T. Jardine.

**Director of Personnel.**—Roy F. Hendrickson.

**Director of Information.**—Milton S. Eisenhower.

**Director of Finance and Budget Officer.**—W. A. Jump.

**Solicitor.**—Mastin G. White.

**Librarian.**—Claribel R. Barnett.

**Office of Experiment Stations.**—James T. Jardine, Chief.

**Office of Foreign Agricultural Relations.**—Leslie A. Wheeler, Director.

**Weather Bureau.**—Commander Frances W. Reichelderfer, Acting Chief.

**Bureau of Animal Industry.**—John R. Mohler, Chief.

**Bureau of Dairy Industry.**—O. E. Reed, Chief.

**Bureau of Plant Industry.**—E. C. Auchter, Chief.



### III. THE NATIONAL GOVERNMENT

**Forest Service.**—F. A. Silcox, Chief.

**Bureau of Agricultural Chemistry and Engineering.**—Henry G. Knight, Chief.

**Bureau of Entomology and Plant Quarantine.**—Lee A. Strong, Chief.

**Bureau of Agricultural Economics.**—Howard R. Tolley, Chief.

**Bureau of Home Economics.**—Louise Stanley, Chief.

**Commodity Credit Corporation.**—Carl B. Robbins, President.

**Commodity Exchange Administration.**—J. W. T. Duvel, Chief.

**Food and Drug Administration.**—W. G. Campbell, Chief.

**Soil Conservation Service.**—H. H. Bennett, Chief.

**Farm Security Administration.**—Will W. Alexander, Administrator.

**Farm Credit Administration.**—F. F. Hill, Governor.

**Federal Farm Mortgage Corporation.**—F. F. Hill, Chairman.

**Economic Adviser.**—Mordecai Ezekiel.

**Office of Land Use Coordination.**—M. S. Eisenhower, Coordinator.

**Federal Surplus Commodities Corporation.**—Milo Perkins, President.

**Federal Crop Insurance Corporation.**—Milburn L. Wilson, Chairman.

**Rural Electrification Administration.**—Harry Slattery, Administrator.

#### DEPARTMENT OF COMMERCE

**Secretary of Commerce.**—Harry L. Hopkins.

**Under Secretary.**—Edward T. Noble.

**Assistant Secretary.**—J. M. Johnson.

**Administrative Assistant to the Secretary.**—Malcolm Kerlin.

**Solicitor.**—South Trimble, Jr.

**Chief Clerk and Superintendent.**—E. W. Libbey.

**Chief of Division of Accounts.**—Charles E. Molster.

**Chief of Division of Publications.**—(Vacant).

**Chief of Division of Purchases and Sales.**—Walter S. Erwin.

**Librarian.**—Charlotte L. Carmody.

**Director of the Bureau of Census.**—William L. Austin.

**Director of the Bureau of Foreign and Domestic Commerce.**—James W. Young.

**Director of the National Bureau of Standards.**—Lyman J. Briggs.

**Director of the Coast and Geodetic Survey.**—L. O. Colbert.

**Director of the Bureau of Marine Inspection and Navigation.**—Commander Richard S. Field.

**Commissioner of the Patent Office.**—Conway P. Coe.

**Inland Waterways Corporation.**—Chester C. Thompson, President-Chairman.

#### DEPARTMENT OF LABOR

**Secretary of Labor.**—Frances Perkins.

Charged with the duty of fostering, promoting and developing the welfare of the wage earners of the United States and also working towards a solution of labor problems.

**The Assistant Secretary.**—Charles V. McLaughlin.

**Second Assistant Secretary.**—Marshall E. Dimock.

**Assistant to the Secretary.**—(Vacant).

**Administrative Assistant to the Secretary.**—Frances Turkowitz.

**Executive Assistant to the Secretary.**—Turner W. Battle.

**Special Assistant to the Secretary.**—Mary La Dame.

**Solicitor.**—Gerard D. Reilly.

**Chief Clerk.**—Samuel J. Gompers.

**Director of Conciliation.**—John R. Steelman.

**Director of Labor Standards.**—Verne A. Zimmer.

**Commissioner of Labor Statistics.**—Isador Lubin.

**Commissioner of Immigration and Naturalization.**—James L. Houghteling.

**Chief of the Children's Bureau.**—Katharine F. Lenroot.

**Director of the Women's Bureau.**—Mary Anderson.

**Wage and Hour Division.**—Harold D. Jacobs, Acting Administrator.

**Division of Public Contracts.**—L. Metcalfe Walling, Administrator.

## FEDERAL ADMINISTRATIVE ORGANIZATION

### MISCELLANEOUS EXECUTIVE SERVICES

**Civil Service Commission.**—Harry B. Mitchell, President; Mrs. Lucille F. McMillin, Arthur S. Flemming.

**Interstate Commerce Commission.**—Joseph B. Eastman, Chairman; Clyde B. Aitchison, Claude R. Porter, William E. Lee, Charles D. Mahaffie, Walter M. W. Splawn, Carroll Miller, John L. Rogers, Marion M. Caskie, J. Haden Aldredge, William J. Patterson.

**United States Employees' Compensation Commission.**—Mrs. Jewell W. Swofford, Chairman; John M. Morin, John J. Keegan.

**General Accounting Office.**—Fred H. Brown, Comptroller General of the United States.

**Federal Reserve Board.**—Mariner S. Eccles, Chairman; Ronald Ramson, Vice Chairman; M. S. Szymczak, John K. McKee, Chester C. Davis, Ernest G. Draper.

**Federal Trade Commission.**—Ewin L. Davis, Chairman; R. E. Freer, W. A. Ayres, Garland S. Ferguson, Charles H. March; Otis B. Johnson, Secretary.

**United States Tariff Commission.**—Raymond B. Stevens, Chairman; Oscar B. Ryder, Vice Chairman; Edgar B. Brossard, E. Dana Durand, A. Manuel Fox; Sidney Morgan, Secretary.

**United States Board of Tax Appeals.**—C. Rogers Arundell, Chairman.

**Federal Power Commission.**—Clyde L. Seavey, Chairman; Claude L. Draper, Vice Chairman; Basil Manly, Leland Olds, John W. Scott.

**Federal Emergency Administration of Public Works.**—Harold L. Ickes, Administrator.

**Federal Communications Commission.**—James Lawrence Fly, Chairman.

**Civil Aeronautics Authority.**—Robert H. Hinckley, Chairman.

**Veterans' Administration.**—Brigadier General Frank T. Hines, Administrator.

**Federal Board of Hospitalization.**—Brigadier General Frank T. Hines, Chairman.

**The Joint Board.**—Commander J. B. W. Waller, Secretary.

**The Army and Navy Munitions Board.**—Col. Charles Hines, Secretary.

**The Aeronautical Board.**—Jarvis Butler, Secretary.

**The Joint Economy Board.**—Jarvis Butler, Secretary.

**United States Council of National Defense.**—Secretary of War, Chairman.

**Federal Board for Vocational Education.**—Frances Perkins, Chairman.

**United States Maritime Commission.**—Rear Admiral Emory S. Land, Chairman.

**Maritime Labor Board.**—Robert W. Bruere, Chairman.

**National Advisory Committee for Aeronautics.**—Dr. Vannevar Bush, Chairman.

**Federal Board of Surveys and Maps.**—C. L. Garner, Chairman.

**The Commission of Fine Arts.**—Gilmore D. Clarke, Chairman.

**National Mediation Board.**—Otto S. Beyer, Chairman.

**National Capital Park and Planning Commission.**—Frederic A. Delano, Chairman.

**Smithsonian Institution.**—

Established 1846 under the terms of the will of James Smithson for the "increase and diffusion of knowledge among men." The former aim is accomplished by the promoting of original, scientific research, and the latter by publications and lectures. The affairs of the institution are managed by a Board of Regents which co-operates with the Government and with National scientific bodies. Under the direction of the Institution are the National Museum, charged with preserving and utilizing objects of art and ethnological, geological and mineralogical collections belonging to the United States; Bureau of American Ethnology, National Gallery of Art, Freer Gallery of Art, National Zoological Park, Astrophysical Observatory, and the Regional Bureau for the United States International Catalogue of Scientific Literatures.

Secretary.—C. G. Abbot.

**National Academy of Sciences.**—Frank B. Jewett, President; Arthur

### III. THE NATIONAL GOVERNMENT

L. Day, Vice President; Frederick E. Wright, Home Secretary; L. J. Henderson, Foreign Secretary; Ross G. Harrison, Chairman of the National Research Council.

**Pan-American Union.**—L. S. Rowe, Director General.

**American National Red Cross.**—Norman H. Davis, Chairman.

**Securities and Exchange Commission.**—Jerome N. Frank, Chairman.

**Tennessee Valley Authority.**—Harcourt A. Morgan, Chairman; David E. Lilienthal, James P. Pope.

**Federal Deposit Insurance Corporation.**—Leo T. Crowley, Chairman.

**National Labor Relations Board.**—J. Warren Madden, Chairman.

**Railroad Retirement Board.**—Murray W. Latimer, Chairman.

**The National Archives.**—R. D. W. Connor, Archivist.

**Federal Loan Agency.**—Jesse H. Jones, Administrator.

**Reconstruction Finance Corporation.**—Emil Schram, Chairman.

**Federal Housing Administration.**—Stewart McDonald, Administrator.

**Federal Home Loan Bank Board.**—John H. Fahey, Chairman.

**Home Owners' Loan Corporation.**—John H. Fahey, Chairman.

**Federal Security Agency.**—Paul V. McNutt, Administrator.

**Social Security Board.**—Arthur J. Altmeyer, Chairman.

**Public Health Service.**—Thomas Parran, Surgeon General.

**U. S. Office of Education.**—John W. Studebaker, Commissioner.

**Federal Advisory Board for Vocational Education.**—Paul H. Nyström, Chairman.

**National Youth Administration.**—Aubrey Williams, Administrator.

**Civilian Conservation Corps.**—(Vacant), Director.

**Federal Works Agency.**—John M. Carmody, Administrator.

**Works Projects Administration.**—F. C. Harrington, Commissioner.

**Public Works Administration.**—E. W. Clark, Acting Commissioner.

**Public Roads Administration.**—Thomas H. MacDonald, Chief.

**United States Housing Authority.**—Nathan Straus, Administrator.

### MEMBERS OF THE SENATE

#### COMPILED FROM THE CONGRESSIONAL DIRECTORY, YEAR, 1940

(Dates show beginning of service in the Senate. Names of Republicans are in Roman type; those of Democrats in *Italic*; Farmer Labor in ROMAN CAPS; Progressives in SMALL CAPS; Independent in *ITALIC CAPS*.)

#### ALABAMA

*John H. Bankhead*, 2d (1931).  
*Lister Hill* (1938).

#### ARIZONA

*Henry F. Ashurst* (1912).  
*Carl Hayden* (1927).

#### ARKANSAS

*H. W. Caraway* (1931).  
*John E. Miller* (1937).

#### CALIFORNIA

*Hiram W. Johnson* (1917).  
*Sheridan Downey* (1938).

#### COLORADO

*Alva B. Adams* (1933).  
*Edwin C. Johnson* (1936).

#### CONNECTICUT

*Francis T. Maloney* (1935).  
*John A. Danaher* (1938).

#### DELAWARE

*John G. Townsend, Jr.* (1929).  
*James H. Hughes* (1936).

#### FLORIDA

*Charles O. Andrews* (1936).  
*Claude Pepper* (1936).

#### GEORGIA

*Walter F. George* (1922).  
*Richard B. Russell, Jr.* (1933).

#### IDAHO

*D. Worth Clark* (1938).  
*John W. Thomas* (1940).

#### ILLINOIS

*Scott W. Lucas* (1938).  
*James M. Slattery* (1939).

#### INDIANA

*Frederick Van Nuys* (1933).  
*Sherman Minton* (1935).

#### IOWA

*Guy M. Gillette* (1936).  
*Clyde L. Herring* (1936).

#### KANSAS

*Arthur Capper* (1919).  
*Clyde M. Reed* (1938).

#### KENTUCKY

*Alben W. Barkley* (1927).  
*A. B. Chandler* (1939).

#### LOUISIANA

*John H. Overton* (1933).  
*Allen J. Ellender* (1936).

#### MAINE

*Frederick Hale* (1917).  
*Wallace H. White, Jr.* (1931).

#### MARYLAND

*Millard E. Tydings* (1927).  
*George L. Radcliffe* (1935).

#### MASSACHUSETTS

*David I. Walsh* (1926).  
*Henry Cabot Lodge, Jr.* (1936).

#### MICHIGAN

*Arthur H. Vandenberg* (1928).  
*Prentiss M. Brown* (1936).

#### MINNESOTA

*HENRIK SHIPSTEAD* (1923)  
*ERNEST LUNDEEN* (1936).

# MEMBERS OF THE HOUSE OF REPRESENTATIVES

## MISSISSIPPI

*Pat Harrison* (1919).  
*Theodore G. Bilbo* (1935).

## MISSOURI

*Bennett C. Clark* (1933).  
*Harry S. Truman* (1935).

## MONTANA

*Burton K. Wheeler* (1923).  
*James E. Murray* (1935).

## NEBRASKA

*GEORGE W. NORRIS* (1913).  
*Edward R. Burke* (1935).

## NEVADA

*Key Pittman* (1913).  
*Patrick McCarran* (1932).

## NEW HAMPSHIRE

*H. Styles Bridges* (1936).  
*Charles W. Tobey* (1938).

## NEW JERSEY

*William H. Smathers* (1936).  
*W. Warren Barbour* (1938).

## NEW MEXICO

*Carl A. Hatch* (1934).  
*Dennis Chavez* (1935).

## NEW YORK

*Robert F. Wagner* (1927).  
*James M. Mead* (1938).

## NORTH CAROLINA

*Josiah W. Bailey* (1931).  
*Robert R. Reynolds* (1932).

## NORTH DAKOTA

*Lynn J. Frazier* (1923).  
*Gerald P. Nye* (1925).

## OHIO

*Vic Donahey* (1935).  
*Robert A. Taft* (1938).

## OKLAHOMA

*Elmer Thomas* (1927).  
*Josh Lee* (1936).

## OREGON

*Charles L. McNary* (1918).  
*Rufus C. Holman* (1938).

## PENNSYLVANIA

*James J. Davis* (1931).  
*Joseph F. Guffey* (1935).

## RHODE ISLAND

*Peter G. Gerry* (1935).  
*Theodore F. Green* (1936).

## SOUTH CAROLINA

*Ellison D. Smith* (1909).  
*James F. Byrnes* (1931).

## SOUTH DAKOTA

*William J. Bulow* (1931).  
*Chan Gurney* (1938).

## TENNESSEE

*Kenneth McKellar* (1917).  
*Tom Stewart* (1938).

## TEXAS

*Morris Sheppard* (1913).  
*Tom Connally* (1929).

## UTAH

*William H. King* (1917).  
*Elbert D. Thomas* (1933).

## VERMONT

*Warren R. Austin* (1931).  
*Ernest W. Gibson* (1933).

## VIRGINIA

*Carter Glass* (1920).  
*Harry F. Byrd* (1933).

## WASHINGTON

*Homer T. Bone* (1933).  
*Lewis B. Schwollenbach* (1935).

## WEST VIRGINIA

*Matthew M. Neely* (1931).  
*Rush D. Holt* (1935).

## WISCONSIN

*ROBERT M. LA FOLLETTE, JR.* (1925).  
*Alexander Wiley* (1938).

## WYOMING

*Joseph C. O'Mahoney* (1933).  
*H. H. Schwartz* (1936).

# MEMBERS OF THE HOUSE OF REPRESENTATIVES

## COMPILED FROM THE CONGRESSIONAL DIRECTORY, YEAR, 1940

(Dates show beginning of service in the House. Names of Republicans are in Roman type; those of Democrats in *Italic*; Farmer Labor in ROMAN CAPS; Progressive in SMALL CAPS.)

## ALABAMA

1. *Frank W. Boykin* (1935).
2. *George M. Grant* (1938).
3. *Henry B. Steagall* (1914).
4. *Sam Hobbs* (1935).
5. *Joe Starnes* (1935).
6. *Pete Jarman* (1936).
7. *William B. Bankhead* (1917).
8. *John J. Sparkman* (1936).
9. *Luther Patrick* (1936).

## ARIZONA

At Large—*John R. Murdock* (1936).

## ARKANSAS

1. *E. C. Gathings* (1938).
2. *Wilbur D. Mills* (1938).
3. *Clyde T. Ellis* (1938).
4. *Fadjo Cravens* (1939).
5. *David D. Terry* (1934).
6. *W. F. Norrell* (1938).
7. *Wade H. Kitchens* (1936).

## CALIFORNIA

1. *Clarence F. Lea* (1917).
2. *Harry L. Englebright* (1926).
3. *Frank H. Buck* (1933).
4. *Franck R. Havenner* (1936).
5. *Richard J. Welch* (1925).
6. *Albert E. Carter* (1925).
7. *John H. Tolan* (1935).
8. *John Z. Anderson* (1938).
9. *Bertrand W. Gearhart* (1935).
10. *Alfred J. Elliott* (1937).
11. *Carl Hinsshaw* (1938).
12. *H. Jerry Voorhis* (1936).
13. *Charles Kramer* (1933).
14. *Thomas F. Ford* (1933).
15. *John M. Costello* (1935).
16. *Leland M. Ford* (1938).
17. *Lee E. Geyer* (1938).
18. Vacant.
19. *Harry R. Sheppard* (1936).
20. *Ed. V. Izac* (1936).

## COLORADO

1. *Lawrence Lewis* (1933).
2. *Fred Cummings* (1933).
3. *John A. Martin* (1933).
4. *Edward T. Taylor* (1909).

## CONNECTICUT

At Large—*B. J. Monkiewicz* (1938).

1. *William J. Miller* (1938).
2. *Thomas R. Ball* (1938).
3. *James A. Shanley* (1935).
4. *Albert E. Austin* (1938).
5. *J. Joseph Smith* (1935).

## DELAWARE

At Large—*George S. Williams* (1938).

## FLORIDA

1. *J. Hardin Peterson* (1933).
2. *Lex Green* (1938).
3. *Millard F. Caldwell* (1933).
4. *Pal Cannon* (1938).
5. *Joe Hendricks* (1936).

## GEORGIA

1. *Hugh Peterson* (1935).
2. *E. E. Coz* (1925).
3. *Stephen Pace* (1936).
4. *A. Sidney Camp* (1939).
5. *Robert Ramspeck* (1929).



### III. THE NATIONAL GOVERNMENT

6. Carl Vinson (1914).
7. Malcolm C. Tarver (1927).
8. W. Ben Gibbs (1938).
9. B. Frank Wheelchel (1935).
10. Paul Brown (1933).

#### IDAHO

1. Compton I. White (1933).
2. Henry C. Dworshak (1938).

#### ILLINOIS

- At Large—John C. Martin (1938).  
T. V. Smith (1938).
1. Arthur W. Mitchell (1935).
  2. Raymond S. McKeough (1935).
  3. Edward A. Kelly (1931).
  4. Harry P. Beam (1931).
  5. Adolph J. Sabath (1907).
  6. Anton F. Maciejewski (1938).
  7. Leonard W. Schuetz (1931).
  8. Leo Kocialkowski (1933).
  9. James McAndrews (1935).
  10. Ralph E. Church (1935).
  11. Chauncey W. Reed (1935).
  12. Noah M. Mason (1936).
  13. Leo E. Allen (1933).
  14. Anton J. Johnson (1938).
  15. Robert B. Chipperfield (1938).
  16. Everett M. Dirksen (1933).
  17. Leslie C. Arends (1935).
  18. Jessie Sumner (1938).
  19. William H. Wheat (1938).
  20. James M. Barnes (1938).
  21. Frank W. Fries (1936).
  22. Edwin M. Schaefer (1933).
  23. Laurence F. Arnold (1936).
  24. Claude V. Parsons (1930).
  25. Kent E. Keller (1931).

#### INDIANA

1. William T. Schulte (1933).
2. Charles A. Halleck (1935).
3. Robert A. Grant (1938).
4. George W. Gillie (1938).
5. Forest A. Harness (1938).
6. Noble J. Johnson (1938).
7. Gerald W. Landis (1938).
8. John W. Boehne, Jr. (1933).
9. Eugene B. Crowe (1931).
10. Raymond S. Springer (1938).
11. William H. Larrabee (1931).
12. Louis Ludlow (1929).

#### IOWA

1. Thomas E. Martin (1938).
2. William S. Jacobsen (1936).
3. John W. Gwynne (1935).
4. H. O. Talle (1938).
5. Karl M. Le Compte (1938).
6. Cassius C. Dowell (1936).
7. Ben F. Jensen (1938).
8. Fred C. Gilchrist (1931).
9. Vincent F. Harrington (1936).

#### KANSAS

1. W. P. Lamberton (1929).
2. U. S. Guyer (1926).
3. Thomas D. Winter (1938).
4. Edward H. Rees (1936).
5. John M. Houston (1935).
6. Frank Carlson (1935).
7. Clifford R. Hope (1926).

#### KENTUCKY

1. Noble J. Gregory (1936).
2. Beverly M. Vincent (1937).
3. Emmet O'Neal (1935).

4. Edward W. Creal (1935).
5. Brent Spence (1931).
6. Virgil Chapman (1931).
7. Andrew J. May (1931).
8. Joe B. Bates (1938).
9. John M. Robison (1935).

#### LOUISIANA

1. Joachim O. Fernandez (1931).
2. Paul H. Maloney (1931).
3. Robert L. Mouton (1936).
4. Overton Brooks (1936).
5. Neut V. Mills (1936).
6. John K. Griffith (1936).
7. R. L. DeRouen (1927).
8. A. Leonard Allen (1936).

#### MAINE

1. James C. Oliver (1936).
2. Clyde H. Smith (1936).
3. Ralph O. Brewster (1935).

#### MARYLAND

1. David J. Ward (1939).
2. Wm. P. Cole, Jr. (1931).
3. Thomas D'Alessandro, Jr. (1938).
4. Ambrose J. Kennedy (1933).
5. Lansdale G. Sasscer (1939).
6. William D. Byron (1938).

#### MASSACHUSETTS

1. A. T. Treadway (1913).
2. Charles R. Clason (1936).
3. Joseph E. Casey (1935).
4. Pehr G. Holmes (1931).
5. Edith N. Rogers (1925).
6. George J. Bates (1936).
7. Lawrence J. Connerly (1937).
8. Arthur D. Healey (1933).
9. Robert Luce (1936).
10. G. H. Tinkham (1915).
11. Thomas A. Flaherty (1937).
12. J. W. McCormack (1928).
13. R. B. Wigglesworth (1928).
14. J. W. Martin, Jr. (1925).
15. Charles L. Gifford (1922).

#### MICHIGAN

1. Rudolph G. Tenerowicz (1938).
2. Earl C. Michener (1935).
3. Paul W. Shafer (1936).
4. Clare E. Hoffman (1935).
5. Vacant.
6. William W. Blackney (1938).
7. Jesse P. Wolcott (1931).
8. Fred L. Crawford (1935).
9. Albert J. Engel (1935).
10. Roy O. Woodruff (1921).
11. Fred Bradley (1938).
12. Frank E. Hook (1935).
13. Clarence J. McLeod (1938).
14. Louis C. Rabaut (1935).
15. John D. Dingell (1933).
16. John Lesinski (1933).
17. George A. Dondero (1933).

#### MINNESOTA

1. August H. Andresen (1935).
2. Elmer J. Ryan (1935).
3. John G. Alexander (1938).
4. Melvin J. Mass (1935).
5. Oscar Youngdahl (1938).
6. Harold Knutson (1917).
7. H. Carl Andersen (1938).
8. William A. Pittenger (1938).
9. R. T. BUCKLER (1935)

#### MISSISSIPPI

1. John E. Rankin (1921).
2. Wall Dooey (1929).
3. W. M. Whittington (1925).
4. A. L. Ford (1935).
5. Ross A. Collins (1936).
6. William M. Colmer (1933).
7. Dan R. McGehee (1935).

#### MISSOURI

1. M. A. Romjue (1923).
2. William J. Nelson (1935).
3. Richard M. Duncan (1933).
4. C. Jasper Bell (1935).
5. Joseph B. Shannon (1931).
6. Reuben T. Wood (1933).
7. Dewey Short (1935).
8. Clyde Williams (1931).
9. Clarence Cannon (1923).
10. Orville Zimmerman (1935).
11. Thomas C. Hennings, Jr. (1935).
12. C. Arthur Anderson (1936).
13. John J. Cochran (1927).

#### MONTANA

1. J. Thorkelson (1938).
2. James F. O'Connor (1936).

#### NEBRASKA

1. George H. Heinke (1935).
2. Charles F. McLaughlin (1935).
3. Karl Stefan (1935).
4. Carl T. Curtis (1938).
5. Harry B. Coffey (1935).

#### NEVADA

- At Large—James G. Scrugham (1933).

#### NEW HAMPSHIRE

1. Arthur B. Jenks (1936).
2. Foster Stearns (1938).

#### NEW JERSEY

1. C. A. Wolverton (1926).
2. Walter S. Jeffries (1938).
3. William H. Sulphin (1931).
4. D. Lane Powers (1933).
5. Charles A. Eaton (1925).
6. Donald H. McLean (1933).
7. J. Parnell Thomas (1936).
8. George N. Seger (1933).
9. Frank C. Osmera, Jr. (1938).
10. F. A. Hartley, Jr. (1929).
11. Albert L. Vreeland (1938).
12. Robert W. Keane (1938).
13. Mary T. Norton (1925).
14. Edward J. Hart (1935).

#### NEW MEXICO

- At Large—John J. Dempsey (1935).

#### NEW YORK

- At Large—Matthew J. Merritt (1935).  
Caroline O'Day (1935).
1. Leonard W. Hall (1938).
  2. W. B. Barry (1935).
  3. Joseph L. Pfeifer (1935).
  4. Thomas H. Cullen (1919).
  5. Marcellus H. Evans (1935).
  6. Andrew L. Somers (1925).
  7. John J. Delaney (1931).

# MEMBERS OF THE HOUSE OF REPRESENTATIVES

8. *Donald L. O'Toole* (1936).
9. *Eugene J. Keogh* (1936).
10. *Emanuel Celler* (1923).
11. *James A. O'Leary* (1935).
12. *Samuel Dickstein* (1923).
13. *C. D. Sullivan* (1917).
14. Vacant.
15. *Michael J. Kennedy* (1938).
16. *James H. Fay* (1938).
17. *Bruce Barton* (1937).
18. *M. J. Kennedy* (1930).
19. *Sol Bloom* (1923).
20. *VITO MARCANTONIO* (1938).
21. *J. A. Gavagan* (1929).
22. *Edward W. Curley* (1936).
23. *Charles A. Buckley* (1935).
24. *J. M. Fitzpatrick* (1926).
25. *Ralph A. Gamble* (1937).
26. *Hamilton Fish* (1920).
27. *Lewis K. Rockefeller* (1937).
28. *William T. Byrne* (1936).
29. *E. Harold Cluett* (1936).
30. *Frank Crowther* (1919).
31. *Wallace E. Pierce* (1938).
32. *Francis D. Culklin* (1928).
33. *Fred J. Douglas* (1936).
34. *Edwin Arthur Hall* (1939).
35. *C. E. Hancock* (1927).
36. *John Taber* (1923).
37. *W. Sterling Cole* (1935).
38. *Joseph J. O'Brien* (1938).
39. *James W. Wadsworth* (1933).
40. *Walter G. Andrews* (1931).
41. *J. Francis Harter* (1938).
42. *Pius L. Schwert* (1933).
43. *Daniel A. Reed* (1919).

## NORTH CAROLINA

1. *Lindsay C. Warren* (1925).
2. *John H. Kerr* (1923).
3. *Graham A. Barden* (1935).
4. *Harold D. Cooley* (1935).
5. *Alonzo D. Folger* (1938).
6. *Carl T. Durham* (1938).
7. *J. Bayard Clark* (1929).
8. *W. O. Burgin* (1938).
9. *R. L. Doughton* (1911).
10. *A. L. Bulwinkle* (1931).
11. *Zebulon Weaver* (1931).

## NORTH DAKOTA

- At Large—*Usher L. Burdick* (1935).
- William Lemke* (1933).

## OHIO

- At Large—*George H. Bender* (1938).

- L. L. Marshall* (1938).
1. *Charles H. Elston* (1938).
  2. *William E. Hess* (1938).
  3. *Harry N. Routzohn* (1938).
  4. *Robert F. Jones* (1938).
  5. *Cliff Clevenger* (1938).
  6. *James G. Polk* (1931).
  7. *Clarence J. Brown* (1938).
  8. *Frederick C. Smith* (1938).
  9. *John F. Hunter* (1936).
  10. *T. A. Jenkins* (1925).
  11. *Harold K. Claypool* (1936).
  12. *John M. Vorys* (1938).
  13. *Dudley A. White* (1936).
  14. *Dow W. Harter* (1933).
  15. *Robert T. Secrest* (1933).
  16. *James Seccombe* (1938).
  17. *William A. Ashbrook* (1935).

18. *Earl R. Lewis* (1938).
19. *Michael J. Kirwan* (1936).
20. *Martin L. Sweeney* (1931).
21. *Robert Crosser* (1923).
22. Vacant.

## OKLAHOMA

- At Large—*Will Rogers* (1933).

1. *Wesley E. Disney* (1931).
2. *Jack Nichols* (1935).
3. *Wilburn Cartwright* (1927).
4. *Lyle H. Boren* (1936).
5. *A. S. Mike Monroney* (1938).
6. *Jed Johnson* (1926).
7. *Sam C. Massingale* (1935).
8. *Phil Ferguson* (1935).

## OREGON

1. *James W. Mott* (1933).
2. *Walter M. Pierce* (1933).
3. *Homer D. Angell* (1938).

## PENNSYLVANIA

1. *Leon Sacks* (1936).
2. *James P. McGranery* (1936).
3. *Michael J. Bradley* (1936).
4. *John Edward Sheridan* (1939).
5. *Fred C. Gartner* (1938).
6. *Francis J. Myers* (1938).
7. *George P. Darrow* (1938).
8. *James Wolfenden* (1928).
9. *Charles L. Gerlach* (1938).
10. *J. R. Kinzer* (1930).
11. *Patrick J. Boland* (1931).
12. *J. Harold Flannery* (1936).
13. *Ivor D. Fenton* (1938).
14. *Guy L. Moser* (1936).
15. *Albert G. Rutherford* (1936).
16. *Robert F. Rich* (1930).
17. *J. William Ditter* (1933).
18. *Richard M. Simpson* (1937).
19. *John C. Kunkel* (1938).
20. *Benjamin Jarrett* (1936).
21. *Francis E. Walter* (1933).
22. *Chester H. Gross* (1938).
23. *James E. Van Zandt* (1938).
24. *J. Buell Snyder* (1933).
25. *Charles I. Faddis* (1933).
26. *Louis E. Graham* (1938).
27. *Harne Tibbott* (1938).
28. *Robert G. Allen* (1936).
29. *Robert L. Rodgers* (1938).
30. *Robert J. Corbett* (1938).
31. *John McDowell* (1938).
32. *Herman P. Eberharter* (1936).
33. *Joseph A. McArdle* (1938).
34. *Matthew A. Dunn* (1933).

## RHODE ISLAND

1. *Charles F. Risk* (1938).
2. *Harry Sandager* (1938).

## SOUTH CAROLINA

1. *Clara G. McMillan* (1925).
2. *H. P. Fulmer* (1921).
3. *Buller B. Hare* (1938).
4. *Joseph R. Bryson* (1938).
5. *James P. Richards* (1933).
6. *John L. McMillan* (1938).

## SOUTH DAKOTA

1. *Karl E. Mundt* (1938).
2. *Francis H. Case* (1936).

## TENNESSEE

1. *B. Carroll Reece* (1933).
2. Vacant.
3. *Estes Kefauver* (1939).
4. *Albert Gore* (1938).
5. *Joseph W. Byrns, Jr.* (1938).
6. *Wirt Courtney* (1939).
7. *Herron Pearson* (1935).
8. *Jere Cooper* (1929).
9. *Walter Chandler* (1935).

## TEXAS

1. *Wright Patman* (1929).
2. *Martin Dies* (1931).
3. *Lindley Beckworth* (1938).
4. *Sam Rayburn* (1913).
5. *H. W. Sumners* (1913).
6. *Luther A. Johnson* (1923).
7. *Nat Patton* (1935).
8. *Albert Thomas* (1936).
9. *J. J. Mansfield* (1917).
10. *Lyndon B. Johnson* (1937).
11. *William R. Poage* (1936).
12. *Fritz G. Lanham* (1919).
13. *Ed Gossett* (1938).
14. *Richard M. Kleberg* (1931).
15. *Milton H. West* (1933).
16. *R. Ewing Thomason* (1938).
17. *Clyde L. Garrett* (1936).
18. *Marrin Jones* (1917).
19. *George H. Mahon* (1935).
20. *Paul J. Kilday* (1938).
21. *Charles L. South* (1935).

## UTAH

1. *Abe Murdock* (1933).
2. *J. W. Robinson* (1933).

## VERMONT

- At Large—*Charles A. Plumley* (1935).

## VIRGINIA

1. *Schuyler O. Bland* (1918).
2. *Colgate W. Darden, Jr.* (1938).
3. *Dave E. Satterfield, Jr.* (1937).
4. *Patrick H. Drewry* (1920).
5. *Thomas G. Burch* (1931).
6. *C. A. Woodrum* (1923).
7. *A. Willis Robertson* (1933).
8. *Howard W. Smith* (1931).
9. *John W. Flannagan, Jr.* (1931).

## WASHINGTON

1. *Warren G. Magnuson* (1936).
2. *Mon C. Wallgren* (1933).
3. *Martin F. Smith* (1933).
4. *Knute Hill* (1933).
5. *Charles H. Leavy* (1936).
6. *John M. Coffey* (1936).

## WEST VIRGINIA

1. *Andrew C. Schiffer* (1938).
2. *Jennings Randolph* (1933).
3. *Andrew Edmiston* (1933).
4. *George W. Johnson* (1933).
5. *John Kee* (1933).
6. *Joe L. Smith* (1929).

## WISCONSIN

1. *Stephen Bolles* (1938).
2. *Charles Hawks, Jr.* (1938).
3. Vacant.
4. *John C. Schafer* (1938).
5. *Lewis D. Thill* (1938).
6. *Frank B. Keefe* (1938).
7. *Reid F. Murray* (1938).
8. *Joshua L. Johns* (1938).

### III. THE NATIONAL GOVERNMENT

MERRLIN HULL (1935).  
R. J. GEHRMANN (1935).

#### WYOMING

At Large.—Frank O. Horton  
(1938).

#### ALASKA

Anthony J. Dimond (1933).

#### HAWAII

Samuel W. King (1935).

#### PHILIPPINE ISLANDS

Joaquin M. Elizalde (1938).

#### PUERTO RICO

Vacant

### FEDERAL JUDICIAL ORGANIZATION

BY WILLIAM M. SCHUYLER

EDITOR, *The American Year Book*

#### SUPREME COURT OF THE UNITED STATES

Charles Evans Hughes (New York), Chief Justice of the United States, appointed 1930.

James Clark McReynolds (Kentucky), appointed 1914.

Harlan F. Stone (New Hampshire), appointed 1925.

Owen J. Roberts (Pennsylvania), appointed 1930.

Felix Frankfurter (Massachusetts), appointed 1939.

Hugo L. Black (Alabama), appointed 1937.

Stanley F. Reed (Kentucky), appointed 1938.

William Orville Douglas (Minnesota), appointed 1939.

Frank Murphy (Michigan), appointed 1940.

#### Officers of the Supreme Court:

Clerk—Charles Elmore Cropley.

Deputy Clerks.—Reginald C. Dilli, Hugh W. Barr.

Marshal.—Thomas E. Waggaman.

Reporter.—Ernest Knabel.

Librarian.—Oscar D. Clarke.

#### CIRCUIT COURT OF APPEALS OF THE UNITED STATES

**First Circuit.**—Mr. Justice Frankfurter; Scott Wilson (Maine), James M. Morton, Jr. (Massachusetts), Calvert Magruder (Massachusetts), John C. Mahoney (Rhode Island).

**Second Circuit.**—Mr. Justice Stone; Learned Hand (New York), Thomas W. Swan (Connecticut), Augustus N. Hand (New York), Harrie Brigham Chase (Vermont), Julian W. Mack (New York), Charles E. Clark (Connecticut), Robert P. Patterson (New York).

**Third Circuit.**—Mr. Justice Roberts; William Clark (New Jersey), Albert Branson Maris (Pennsylvania), John Biggs (Delaware), Charles Alvin Jones (Pennsylvania).

**Fourth Circuit.**—Mr. Chief Justice Hughes; John J. Parker (North Carolina), Morris A. Soper (Maryland).

**Fifth Circuit.**—Mr. Justice Black; Rufus E. Foster (Louisiana), Samuel H. Sibley (Georgia), Joseph C. Hutcheson, Jr. (Texas), Edwin R. Holmes (Mississippi), Leon McCord (Alabama).

**Sixth Circuit.**—Mr. Justice McReynolds; Xenophon Hicks (Tennessee), Julian W. Mack (New York), Charles C. Simons (Michigan), Florence E. Allen (Ohio).

**Seventh Circuit.**—Mr. Justice Douglas; Evan A. Evans (Wisconsin), William M. Sparks (Indiana), J. Earl Major (Illinois), Walter E. Treanor (Indiana), Otto Kerner (Illinois).

**Eighth Circuit.**—(Temporarily unassigned).

Kimbrough Stone (Missouri), John B. Sanborn (Minnesota), Archibald K. Gardner (South Dakota), Joseph W. Woodrough (Nebraska), Seth Thomas (Iowa).

**Ninth Circuit.**—Mr. Justice Reed; Curtis D. Wilbur (California), Francis A. Garrecht (Washington), William Denman (California), Clifton Mathews (Arizona), Bert E. Haney (Oregon), Albert Lee Stephens (California), William Healey (Idaho).

**Tenth Circuit.**—(Temporarily unassigned).

Robert E. Lewis (Colorado), Orrie L. Phillips (Colorado), Sam G.

## FEDERAL PROSECUTIONS AND JUDICIAL DECISIONS

Bratton (New Mexico), Walter A. Huxman (Kansas).

### UNITED STATES COURT OF CUSTOMS AND PATENT APPEALS

Finis James Garrett (Tennessee), Presiding Judge, appointed 1929.

Oscar E. Bland (Indiana), appointed 1923.

Charles Sherrod Hatfield (Ohio), appointed 1923.

Irvine L. Lenroot (Wisconsin), appointed 1929.

Joseph R. Jackson (Montana), appointed 1937.

### UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA

D. Lawrence Groner, Chief Justice. Harold M. Stephens.

Justin Miller.

Henry White Edgerton.

Fred M. Vinson.

Wiley Rutledge.

### COURT OF CLAIMS OF THE UNITED STATES

Richard S. Whaley (South Carolina), Chief Justice, appointed 1939. William Raymond Green (Iowa), appointed 1928.

Benjamin H. Littleton (Tennessee), appointed 1929.

Thomas S. Williams (Illinois), appointed 1929.

Samuel E. Whitaker (Tennessee), appointed 1939.

### DISTRICT COURT OF THE UNITED STATES FOR THE DISTRICT OF COLUMBIA

Alfred A. Wheat, Chief Justice.

James M. Proctor.

F. Dickinson Letts.  
Daniel W. O'Donoghue.  
Jennings Bailey.  
Peyton Gordon.  
Oscar R. Luhring.  
T. Alan Goldsborough.  
James W. Morris.  
Jesse C. Adkins.  
Bolitho J. Laws.

### UNITED STATES CUSTOMS COURT

George S. Brown, Acting Presiding Judge.

Walter H. Evans.

William J. Tilson.

Frederick W. Dallinger.

Genevieve R. Cline.

David H. Kincheloe.

William J. Keefe.

### UNITED STATES MARSHAL'S OFFICE

United States Marshal.—John B. Colpoys.

Chief Deputy Marshal.—C. Michael Kearney.

### UNITED STATES ATTORNEY'S OFFICE

United States Attorney, District of Columbia.—David A. Pine.

Assistants.—John W. Fihelly, David A. Hart, Charles B. Murray, Albert Goldstein, John J. Wilson, Karl Kindleberger, George E. McNeil, Cecil R. Heflin, Allen J. Krouse, William Hitz, Jr., Arthur B. Caldwell, Arthur J. McLaughlin, John W. Jackson, John H. Mitchell, William S. Tarver, Stephen P. Haycock, Grace B. Stiles, Brewster H. Marshall, Bernard J. Long, Evan T. Davis.

## FEDERAL PROSECUTIONS AND JUDICIAL DECISIONS

By PAUL A. FREUND

LECTURER IN LAW, HARVARD LAW SCHOOL

### GENERAL

The most notable tendency in the decisions of the Federal courts during the year 1939 was the readiness to abandon constitutional doctrine which appeared, on reconsideration, to be not the law of the Constitution but

an overgrowth of law about the Constitution. This tendency was the subject of sharp debate at the annual meeting of the American Bar Association held in July, the Solicitor General hailing the trend as a movement "back to the Constitution" and



### III. THE NATIONAL GOVERNMENT

the president of the Bar Association viewing it as a drift from ancient moorings. The principal constitutional decisions are more fully discussed elsewhere (see "The Supreme Court and Constitutional Law," pp. 38-52).

#### TAX IMMUNITY

The rule that the salary of an employee of the Federal Government could not be taxed by a state, which had been an accepted doctrine for a century, was renounced in *Graves v. New York ex rel. O'Keefe*, 306 U.S. 466. Similarly, the constitutional immunity of salaries of state employees from Federal taxation is ended. While this decision had been foreshadowed by decisions during 1938, it marks a decisive step in breaking down inter-governmental tax immunity. Still undecided, however, is the question whether income from state or Federal bonds may be taxed by the other sovereign.

Another form of immunity was brought to an end in *O'Malley v. Woodrough*, 307 U.S. 277, holding that the salaries of Federal judges appointed after the enactment of the 1932 Revenue Act were constitutionally subject to taxation under the terms of that act. The argument which had previously prevailed, that an income tax diminishes judicial salaries and makes inroads upon the independence of judges, was said by the Court "to trivialize the great historic experience on which the framers based the safeguards" of the constitutional provision forbidding diminution of compensation of judges.

#### MULTIPLE TAXATION

Continuing its retreat from its position of the prior decade that double taxation was forbidden by the due process clause of the Fourteenth Amendment, the Supreme Court ruled that double inheritance taxation of intangibles may be valid (*Curry v. McCannless* and *Graves v. Elliott*, 307 U.S. 357, 383). Those cases sustained taxation of the transfer at death of securities held under a trust, both by the state where the trust was administered and by the state where the

decedent was domiciled. In addition, the Court upheld a corporate property tax by the state of incorporation measured by the full amount of paid-in capital and accumulated surplus, even though the corporation did its principal business outside the state; whether a showing that a "commercial domicile" had been established in a state other than the charter state would have deprived the latter of its power to tax, was not decided (*Newark Fire Ins. Co. v. State Board of Tax Appeals*, 307 U.S. 313).

#### TENNESSEE VALLEY AUTHORITY

The legal attack on the Tennessee Valley Authority was brought to a close by the decision in *Tennessee Electric Power Co. et al. v. Tennessee Valley Authority*, 306 U.S. 118, in which the Supreme Court held that the 18 power companies which brought the suit had no legal standing to question the validity of the Authority's operations, since the companies had no right, by franchise or otherwise, to be free from competition.

#### ADMINISTRATIVE LAW

The much argued case of *United States v. Morgan* (see THE AMERICAN YEAR BOOK, 1938, pp. 123-124) reached the Supreme Court for the third time and resulted in a victory for the Government (307 U.S. 183). The case involved review of an order of the Secretary of Agriculture fixing charges of livestock commission men. The two prior decisions had held that the hearings before the Secretary were defective. The issue on the third appeal was whether the payments made by the farmers to the commission men in excess of the charges fixed by the Secretary, impounded in the District Court, should forthwith be turned over to the commission men. The Government insisted, and the Court agreed, that the payments should be withheld pending an opportunity to hold further administrative hearings. The opinion of the Court is notable for its statement of the relation which should obtain between the courts and administrative bodies: "Neither body should repeat in this day the mistake made by the courts

of law when equity was struggling for recognition as an ameliorating system of justice; neither can rightly be regarded by the other as an alien intruder, to be tolerated if must be, but never to be encouraged or aided by the other in the attainment of the common aim."

The limits of review of administrative orders were clarified in *Rochester Telephone Co. v. United States and Federal Communications Commission*, 307 U.S. 125. It had formerly been the rule that so-called negative orders of the Interstate Commerce Commission and perhaps of other commissions, that is, orders denying the relief sought, were not reviewable in the courts. This rule, a generation old, was largely formalistic, and was the product of a period when the limitations on judicial review of administrative orders were imperfectly worked out. The present requirements that administrative remedies be exhausted and that administrative findings be accepted if supported by evidence, furnish more rational limitations on judicial review than did the so-called negative-order doctrine.

#### AGRICULTURAL CONTROL

A succession of three cases established the power of the Federal Government to deal with various aspects of the agricultural problem. In *Currin v. Wallace*, 306 U.S. 1, the Tobacco Inspection Act of 1935 was sustained. The act provides for inspection and grading of tobacco marketed at auction warehouses designated by the Secretary of Agriculture. The act was upheld as against the argument that the practices regulated were not in or related to interstate commerce and that the statute delegated legislative power to the Secretary and to the growers of tobacco by virtue of the fact that regulation was conditioned upon a favorable vote in a referendum. Thereafter, the Agricultural Adjustment Act of 1938 was upheld, in so far as it fixed marketing quotas for flue-cured tobacco (*Mulford v. Smith*, 307 U.S. 38). While the act rests on the commerce clause, and the predecessor act of 1936, declared unconsti-

tutional in *United States v. Butler*, 297 U.S. 1, had rested on the taxing and spending powers, the coercion upon producers would appear to be even greater under the act now sustained than under the earlier law. The third important decision affecting agriculture was *United States v. Rock Royal Co-operative, Inc.*, 307 U.S. 533, together with *H. P. Hood & Sons, Inc. v. United States*, upholding orders of the Secretary of Agriculture, issued under the Agricultural Marketing Agreement Act of 1937, fixing minimum and uniform prices for milk sold by producers to handlers in the New York and Boston metropolitan areas.

#### CIVIL RIGHTS

The celebrated case of *Hague v. Committee for Industrial Organization et al.*, 307 U.S. 496, ended in a Supreme Court decision declaring unconstitutional the ordinance of Jersey City which prohibited public meetings on the public streets or in the public parks or buildings of the city unless a permit had been obtained from the Director of Public Safety who was empowered to refuse a permit for the purpose of preventing riots, disturbances, or disorderly assemblage. An important division of opinion among the majority of the Court concerning the precise constitutional guaranties involved makes the scope of the decision somewhat unclear. The division was occasioned by the problem of finding jurisdiction in the Federal courts in the absence of an amount of \$3,000 in controversy required for jurisdiction in the ordinary case. The Judicial Code permits suits, without regard to the amount in controversy, for the redress of any deprivation of rights secured by the Constitution. Justices Roberts and Black were of opinion that the right involved was the privilege of Federal citizens to meet for the discussion of national legislation; the standing of the complainants was rested on the fact that one of their purposes in seeking to hold meetings was to discuss the National Labor Relations Act. On the other hand, Justices Stone and Reed were of opin-

### III. THE NATIONAL GOVERNMENT

ion that the right involved was freedom of speech, a liberty guaranteed by the Fourteenth Amendment without regard to citizenship or to the subject matter of the discussion. The latter view would, of course, give much broader application to the decision in the case. On either view, however, only those complainants who are individuals are entitled to bring suit, since both the privileges and immunities of citizens and the liberty of speech guaranteed by the Fourteenth Amendment are secured to natural, not artificial, persons.

#### ALIEN COMMUNISTS

The expectations of those who looked to the Strecker deportation case (*THE AMERICAN YEAR BOOK*, 1938, pp. 127-128) to clarify the legal status of the Communist Party were disappointed. In the decision of the Supreme Court (*Kessler v. Strecker*), it was found unnecessary to consider whether membership in the Communist Party of America is membership in an organization which teaches and advocates the overthrow of the Government of the United States by force or violence within the terms of the immigration law. The Court held, contrary to a decision of the Circuit Court of Appeals for the Second Circuit, that membership which had terminated prior to the issuance of the warrant of arrest was not such membership as afforded a ground of deportation under the law.

Hearings on the deportation of Harry Bridges, the West Coast labor organizer, which had been deferred pending the outcome of the Strecker case, were held during the summer months before Dean Landis of the Harvard Law School as trial examiner appointed by the Secretary of Labor. At the close of the year the examiner's report, a document of 152 pages, was transmitted to the Secretary. The report found that, on the evidence, it was not established that Bridges was a member of or affiliated with the Communist Party of the United States.

Indictments were returned against Earl Browder, general secretary of the Communist Party, and other

communist leaders, charging offenses under the passport laws. Browder was charged with having failed to disclose in a passport application that he had, on a previous occasion, secured a passport under a false name. The alleged offense on the earlier occasion was no longer subject to prosecution because of the statute of limitations; it was necessary, therefore, to limit the indictment to the subsequent offense of failure to disclose the earlier alleged fraud.

#### ANTI-TRUST LAWS

**Labor Group Practices.**—The Anti-Trust Division of the Department of Justice engaged in widespread activity during the year. Perhaps the outstanding line of attack was the effort to subject the practices of labor groups to the anti-trust laws. The policy underlying this effort was explained by Assistant Attorney General Thurman W. Arnold in an authoritative statement issued on Nov. 20 in response to an inquiry from the secretary of the Central Labor Union of Indianapolis. The statement explained that "it is only such boycotts, strikes and coercion by labor unions as have no reasonable connection with wages, hours, health, safety, the speed-up system, or the establishment and maintenance of the right of collective bargaining which will be prosecuted." The statement listed as illustrations of practices which would be regarded as violating the Sherman Act the following: unreasonable restraints designed to prevent the use of cheaper material, improved equipment, or more efficient methods; unreasonable restraints designed to compel the hiring of useless labor; unreasonable restraints designed to enforce systems of graft and extortion; unreasonable restraints designed to enforce illegally fixed prices; unreasonable restraints designed to destroy an established and legitimate system of collective bargaining. The last mentioned illustration, embracing jurisdictional strikes, gave rise to particularly vigorous dissent on the part of labor leaders.

In pursuance of its policy, the De-



partment of Justice brought proceedings against labor unions in the building and allied trades in a number of cities—New York, Pittsburgh, St. Louis, Cleveland, Detroit, and New Orleans. These prosecutions were intended to be part of a coordinated drive by agencies of the Federal Government to reduce building costs and stimulate a revival in the construction industry.

**Medical Society of District of Columbia.**—The proceeding against the Medical Society of the District of Columbia and other defendants (THE AMERICAN YEAR BOOK, 1938, p. 126) is pending in the Court of Appeals for the District of Columbia. The District Court held that the alleged practices of the defendants in interfering with the operations of a group health service in the District of Columbia were not a restraint of trade, since the practice of medicine is not a trade but a profession. The Department of Justice sought direct review of this decision in the Supreme Court, but such review, which is rarely accorded, was denied, and the case thus takes the normal course through the intermediate appellate court.

**Association of American Railroads.**—A civil complaint was filed in the District of Columbia court in October against the Association of American Railroads, its officers and directors, and 236 member railroad companies, charging violation of the Sherman Act. The basis of the charge was that the defendants combined to restrain trade by agreeing not to extend to motor carriers the same co-operation in the carriage of freight and passengers that they customarily extend to each other. Specifically, it was alleged that they refused to establish through rates, joint rates and fares, and joint billing and arrangements with motor carriers.

**Patent Privileges.**—On Dec. 11, the Department of Justice announced a general investigation, through a grand jury in New York, of the use of patents, patent pooling agreements, and patent licensing agreements. In addition, a suit in equity was begun in the Federal Court in Toledo, O., against 12 corporations and 103 indi-

viduals charging misuse of patent privileges in the business of producing glassware machinery and glass containers. The Department explained that civil rather than criminal proceedings were instituted because the facts were made public at hearings before the Temporary National Economic Committee, and a number of the individuals named as defendants testified before that committee.

**Aluminum Companies.**—The case against the Aluminum Company of America and foreign aluminum companies, which began in 1938, continued throughout the year in the Federal District Court in New York. In November, after the conclusion of the Government's evidence, the District Judge ruled that the evidence would be sufficient to warrant a finding that the defendant companies were engaged in a conspiracy. Thus it is incumbent upon the defendants to introduce countervailing evidence.

**Motor Companies.**—While consent decrees were entered in 1938 terminating the proceedings against the Ford and Chrysler Motor Companies, charging that their control over finance companies was a restraint of trade, a similar proceeding against the General Motors Corporation went to trial, and a verdict of guilty was rendered on Nov. 16.

**Motion Pictures.**—Criminal contempt proceedings were brought against the Fox West Coast Theatres Corporation and a number of other corporate and individual defendants charging violation of a consent decree entered in 1930. The decree had enjoined the defendant distributors from granting preferences to Fox West Coast Theatres Corporation over its competitors, independent exhibitors.

The Supreme Court had occasion to decide that certain practices in the motion picture industry constituted a violation of the anti-trust laws (*Interstate Circuit, Inc. v. United States*). The practices centered in an agreement between distributors and exhibitors of first-run pictures that the distributors would require exhibitors of second-run pictures to charge not less than a minimum ad-



### III. THE NATIONAL GOVERNMENT

mission price and refrain from showing a so-called grade A picture as part of a double feature program.

**Milk Prices.**—Another anti-trust decision by the Supreme Court involved alleged fixing by distributors, cooperatives, labor officials, and municipal officers of artificial prices for milk marketed in the Chicago area. The trial court had held that the enactment of the Capper-Volstead Act and the Agricultural Marketing Agreement Act took such practices out of the ambit of the Sherman Act. This view was rejected by the Supreme Court which held that the Sherman Act remained applicable in the absence of procedures actually pursued in conformity with the subsequent legislation, and hence the case was remanded for further proceedings (*United States v. The Borden Co.*, decided Dec. 4). The question of the amenability of labor union activities to the anti-trust laws was not passed upon.

#### CRIMINAL PROCEDURE

The ban on the use of evidence obtained by wire tapping, which the Supreme Court had announced in the previous year (*THE AMERICAN YEAR BOOK*, 1928, p. 127), was extended in

two cases (*Nardone v. United States*, and *Weiss v. United States*, both decided Dec. 11). Taken together, these cases require the exclusion of such evidence even though the messages intercepted were not interstate messages and even though the evidence is sought to be introduced indirectly as through the testimony of a participant in the intercepted conversation who turned state's evidence upon being confronted with recordings made by wire tapping.

The statutory right of a defendant in a criminal case to remain off the stand without adverse inference being drawn therefrom was made effective in *Bruno v. United States*, decided Dec. 4. It was there held that a Federal trial judge must, upon request, charge the jury specifically not to weigh against the defendant his failure to testify.

#### LABOR RELATIONS BOARD

The effect of a sit-down strike upon the right of employees to reinstatement was decided in *Fansteel Metallurgical Corporation v. N.L.R.B.*, the court holding that participation or assistance in such a strike was proper ground for the employer to discharge and refuse to take back employees.

### FEDERAL CIVIL SERVICE

By HARRY B. MITCHELL

PRESIDENT, THE UNITED STATES CIVIL SERVICE COMMISSION

#### PROHIBITION OF POLITICAL ACTIVITIES

Based on provisions in the Civil Service Act of 1883 the rules promulgated by the President have for many years prohibited classified civil service employees from taking active part in political management or in political campaigns. Such prohibition did not apply to officers and employees in the Federal service who were not subject to the Civil Service Act, although the rules prohibit them from using their official influence or authority for the purpose of interfering with or affecting the results of an election.

Many efforts to extend to all Federal officers and employees the general prohibition governing civil service employees culminated in the passage of the Hatch Act in August 1939. The act is specific in declaring unlawful political activities which had been frequently indulged in by such officers of the Government as postmasters of the first, second, and third classes, collectors of internal revenue, collectors of customs, and others, and penalties are provided for violations. The exceptions to the law as concerns certain activities in political management or political campaigns are stated in Section 9 (a) to be:

## FEDERAL CIVIL SERVICE

"(1) The President and Vice President of the United States; (2) persons whose compensation is paid from the appropriation for the office of the President; (3) heads and assistant heads of executive departments; (4) officers who are appointed by the President, by and with the advice and consent of the Senate, and who determine policies to be pursued by the United States in its relations with foreign powers or in the nation-wide administration of Federal laws."

Especially stringent are the provisions in this act against soliciting or receiving any assessment, subscription, or contribution for any political purpose from a person known to be receiving compensation, employment, or other benefit provided for or made possible by any act of Congress appropriating funds for work relief or relief purposes. Such persons include the administrative and supervisory personnel of relief agencies, as well as the actual recipients of relief.

The Attorney General has held that the following acts on the part of the officers and employees affected constitute violations of the Hatch Act: 1. holding office in a political party or a political club; 2. attending political conventions as a delegate or alternate; 3. serving on committees of a political party or a political club; 4. distributing buttons or printed matter in support of any candidate or party; 5. serving at party headquarters or as watchers at the polls, or otherwise assisting a party or candidate in any primary or election campaign, whether or not Federal offices are involved; 6. being a candidate for elective office—Federal, state or local; and 7. soliciting funds for a political organization or campaign fund.

Another section of the Hatch Act declares it to be unlawful for any person employed in any capacity by any agency of the Federal government whose compensation or any part thereof is paid from funds authorized or appropriated by any act of Congress to have membership in any political party or organization which advocates the overthrow of the con-

stitutional form of government in the United States; and his immediate removal from the service is directed by the act.

### JUDICIAL EMPLOYEES

The Act of August 7, 1939 setting up the Administrative Office of the United States Courts is important not alone as registering an advance in the methods of handling the business of the Federal Courts but also as making this advance assured by placing all but the two positions of Director and Assistant Director within the provisions of the Federal civil service laws. Two years ago the employees of the Judicial service were brought within the jurisdiction of the retirement laws affecting the Executive branch of the civil service; and this new act further extends the application of the Federal civil service system into the Judicial branch.

### GOVERNMENT REORGANIZATION

On April 3, 1939 the President approved the Reorganization Act of 1939, giving him wide authority to reorganize the Executive branch of the service by Executive order. Each order must be submitted to and be before Congress for a continuous period of 60 days before it becomes effective; but affirmative approval by Congress is not required. The act named a number of agencies, including the United States Civil Service Commission, which could not be made the subject of any reorganization order. Section 12 provides that no reorganization specified in any reorganization plan shall take effect unless the plan is transmitted to Congress before Jan. 21, 1941. The President transmitted two plans to Congress which were affirmatively approved to be effective July 1, 1939, and which provided for a number of transfers of bureaus between departments, and for the establishment of three new agencies, the Federal Security Agency, the Federal Works Agency, and the Federal Loan Agency. There were nine establishments placed under the Security Agency, five under the Works Agency, and ten under the Loan Agency.

### III. THE NATIONAL GOVERNMENT

The Congress continued for the fiscal year ended June 30, 1940 the prohibition adopted the previous year against the employment of non-citizens in the State, Treasury, Justice, Post Office, Commerce, and Labor Departments, in the various establishments receiving appropriations from the Independent Offices Appropriation Act, and the Military Establishment of the War Department.

The Reorganization Act authorized the President to appoint not to exceed six administrative assistants to perform such duties as the President may prescribe. To one of these positions the President appointed William H. McReynolds, administrative assistant to the Secretary of the Treasury, and assigned to him duties as liaison officer for personnel management. The Executive Order of September 8, 1939 defined the functions of the office as assisting the President in the better execution of the duties imposed upon him by the provisions of the Constitution and the laws with respect to personnel management, especially the Civil Service Act of 1883, as amended, and the rules promulgated thereunder, and in assisting the President in maintaining closer contact with all agencies dealing with personnel matters in so far as they affect or tend to determine the personnel management policies of the Executive branch of the Government.

#### **SOCIAL SECURITY ADMINISTRATION**

The Social Security Act approved in 1935 provides for grants of Federal funds to the states for a number of purposes, including old age benefits, unemployment compensation, aid for dependent children, maternal and child welfare and service for crippled children, and aid to the blind. It prohibited the Social Security Board from requiring that the states which receive such funds should establish merit systems of employing the personnel to administer them. This did not result satisfactorily in a number of instances and Congress accordingly, in a group of amendments to the Social Security Act, approved Aug. 10,

1939, provided that the Board after Jan. 1, 1940, could require in the various states the setting up of "methods relating to the establishment and maintenance of personnel standards on a merit basis, except that the Board shall exercise no authority with respect to the selection, tenure of office, and compensation of any individual employed in accordance with such methods."

#### **CLASSIFICATION OF POSITIONS FORMERLY EXEMPT**

As reported last year, the President issued on June 24, 1938 an Executive Order bringing into the classified service effective Feb. 1, 1939 a large number of positions theretofore exempt under various provisions of Executive Order and the Civil Service Rules. This included between 4,000 and 5,000 scientific, technical, professional, and higher administrative positions. The President regarded the classification of these positions as providing an opportunity for a comprehensive study of the relationship of such positions in the Federal Government. Accordingly on Jan. 31, 1939 he suspended the operation of the Executive Order of June 24, 1938 so far as concerned several groups of positions and appointed a committee to make "a comprehensive study of methods of recruiting, testing, selecting, promoting, transferring, removing, and reinstating personnel for the positions to which this order relates," and report to the President its recommendations.

Included in the positions to be studied by the Committee are the positions which would have been classified on Feb. 1, 1939 of professional and scientific character, certain administrative and technical positions, and positions in the Inland Waterways Corporation.

The President nominated the following as members of the Committee: Mr. Justice Stanley Reed, chairman; Mr. Justice Felix Frankfurter; Attorney General Frank Murphy; William H. McReynolds, administrative assistant to the Secretary of the Treasury; Leonard D. White, of the University of Chicago and former United States Civil Service Commis-



## FEDERAL CIVIL SERVICE

sioner; General Robert E. Wood, chairman of the Board, Sears, Roebuck Company, and Gano Dunn, president of the J. G. White Engineering Company. This Committee has been gathering much information concerning the Federal service under each of the functions allotted to it for study by the Executive order and its report is anticipated early in 1940.

### GROWTH OF EXECUTIVE CIVIL SERVICE

The Federal Government continues to grow in number of personnel employed because of the demands of the public for the rendering of additional service. The accompanying table shows this growth on a two-year basis. During the fiscal year ended June 30, 1939 the number of positions in the classified service increased by 59,923, and those in the exempt class increased by 8,461, a total increase of 68,384. The establishments in which the major increases occurred were the War Department, 15,000 increase; Post Office Department, 3,000; Navy Department, 17,000; Interior Department, 6,000; Department of Agriculture, 5,000; Railroad Retirement Board, 1,300; Works Progress Administration (now Work Projects Administration), 8,000; and the Civil Aeronautics Authority. The total number of persons employed in the Executive Branch of the Federal government in the District of Columbia June 30, 1939 was 123,364.

adopted civil service laws for application to employments under the state government. These four were Alabama, New Mexico, Rhode Island, and Minnesota. Hawaii also adopted a civil service law applicable to the territorial government. Arkansas, however, under a new administration repealed the state civil service law adopted two years earlier.

**Alabama.**—In March 1939 the legislature passed a civil service law placing virtually all employees of the state government under civil service provisions. The statute provides for a three-member State Personnel Board to administer a comprehensive civil service system providing for a classification and pay plan, recruitment by competitive examination, training, and other features of an effective personnel procedure. The Montgomery Circuit Court upheld the constitutionality of this law in a test case brought by the State Comptroller who appealed to the State Supreme Court. That court by unanimous decision upheld the constitutionality of the law on all counts. One point that had been made by the Comptroller which the court overruled was against that part of the law which prohibited civil service employees from becoming candidates for nomination or election to public office.

**Arizona.**—The State Supreme Court held that legislation providing for a minimum wage for municipal firemen was constitutional. In July 1937 the Arizona State Department of Social

	June 30, 1931	June 30, 1933	June 30, 1935	June 30, 1937	June 30, 1939
Competitive classified positions.....	468,050	456,096	455,264	532,073	622,832
Unclassified and exempt positions.....	148,787	109,336	264,176	309,591	297,478
Total.....	616,837	565,432	719,440	841,664	920,310

### CIVIL SERVICE IN THE STATES

**General.**—Under pressure from many women's organizations and civic organizations, civil service legislation has continued to be the subject of consideration by state legislatures. At least 24 states had such legislation under consideration in 1939 and four

Security and Welfare was placed under a merit system of employment. That agency maintained careful statistics of its work and staff for the subsequent two years. They show an increasing amount of work done by fewer employees at less expense and with greater rapidity.



### III. THE NATIONAL GOVERNMENT

**Arkansas.**—The state legislature repealed in January 1939 the state civil service law adopted two years earlier.

**California.**—The legislature approved a bill permitting municipalities to establish local merit systems. The statute prohibits the municipalities from fixing minimum or maximum age limits for any civil service examination except for positions in the police and fire departments. It further provides that any reduction of force caused by economy retrenchment shall be governed by the rule of seniority.

**Georgia.**—Most of the city employees at Atlanta were placed under a civil service system by act of the state legislature.

**Hawaii.**—In May the territorial legislature adopted a civil service system for the territory and counties to be administered by a three-member commission.

**Idaho.**—In creating a Department of Public Welfare the legislature provided that all employees shall be selected on a merit basis. It also created a State Fish and Game Commission the employees of which are to be under civil service rules and regulations administered by that Commission.

**Illinois.**—The constitutionality of legislation providing for a minimum wage for municipal firemen of the state was upheld by the State Supreme Court. The cities of Sterling and Monmouth adopted civil service systems for local employees. The legislature approved a law permitting all municipal jurisdictions (with the exception of Cook County and its political subdivisions) to vote at any regular election whether or not they would join a state-wide retirement system for municipal employees.

**Kentucky.**—The City of Bowling Green adopted a civil service system for virtually all municipal employees to be administered by a three-member commission.

**Maryland.**—Before leaving office Governor Harry W. Nice extended the state civil service system to cover about 200 additional employees. A merit system law for Montgomery

County adopted in 1937 was repealed by the legislature in January 1939.

**Massachusetts.**—The Massachusetts Supreme Court declared unconstitutional any prohibition or restriction on employment of married women in the public service. The court stated that women, married or unmarried, are citizens, they share with other citizens responsibilities and privileges of citizenship, and are entitled to benefits of the constitutional guarantees against arbitrary discrimination. The legislature revised the civil service system of the state to provide for a five-member Civil Service Commission and a director to administer the State Division of Civil Service.

**Michigan.**—In November 1938 the voters adopted a civil service system for certain positions in the cities of Highland Park, Detroit, and Garden City.

**Minnesota.**—The legislature adopted a civil service law approved by the governor in April 1939 which provides for a three-member board. Present employees who have served five years or more will be "blanketed in" subject to a six months' probationary period, while those having less than five years' service will be required to pass qualifying examinations given during a two-year period beginning Aug. 1, 1939. Regardless of length of service, however, all military veterans now in the service are automatically given regular civil service status.

**Nebraska.**—The legislature defeated bills providing for the establishment of a state merit system and also a similar system for municipal police departments.

**Nevada.**—The state legislature approved a civil service system for the police and fire departments of the City of Reno.

**New Jersey.**—On Nov. 8, 1938 the voters adopted civil service procedure under the State Civil Service Commission for the following communities: Monmouth County, Milburn, Park Ridge, Rutherford, Teaneck, West Orange, Wood-Ridge. The State Supreme Court held that a civil service employee of Jersey City who had been placed in a lower position

## FEDERAL CIVIL SERVICE

than the grade for which he had qualified in competitive examination is entitled to a vacancy in a higher position when it occurs. The court held that, as he had not been placed in the lower position because of inefficiency or misconduct, he was entitled to the higher position when a vacancy occurred.

**New Mexico.**—The legislature adopted a civil service law with a three-member administrative board governing a large number of the employees in state institutions. The law authorizes municipal corporations by ordinance to have the provisions of the state law extended to their positions.

**New York.**—The Municipal Civil Service Commission reported at the end of 1938 that there were only about 550 non-civil-service positions out of about 120,000 positions in the city service. The New York Court of Appeals reversed the lower courts and upheld the action of the New York Municipal Civil Service Commission in granting special credit for college education and organized athletic training in test examinations for patrolmen where it is done on a competitive basis.

**North Carolina.**—The state assembly and the voters of Fayetteville approved a merit system for police department employees of that city.

**Ohio.**—On Nov. 8, 1938 the City of Cleveland voted to place 4,000 unskilled laborer positions under civil service provisions.

**Pennsylvania.**—Governor James in June 1938 vetoed a state merit system bill passed by both houses of the legislature.

**Rhode Island.**—The legislature approved a civil service law covering state employees, providing for a three-member commission and covering a large proportion of the state employees within its provisions. Present employees were placed on a temporary basis pending establishment of eligible lists through competitive examination. The law provides for a classification and pay plan, the giving of promotional tests, a training program, and service ratings.

**South Carolina.**—The City of

Greenville voted for a civil service system.

**Texas.**—The state Supreme Court upheld the constitutionality of legislation providing for a minimum wage for municipal firemen. The state legislature authorized a referendum vote on the question whether to amend the constitution by eliminating the provision fixing a two-year term on municipal tenure whenever the local positions are placed under a civil service system.

**Vermont.**—By general resolution of the legislature the governor appointed a committee to study and prepare a plan for a merit system of state employees to be submitted to the 1941 session of the legislature.

**Virginia.**—By act of the General Assembly a civil service study commission has been appointed to make recommendations on the advisability of providing a civil service system for state employees. Its report is to be submitted to the governor 60 days before the 1940 session of the General Assembly. The City Council of Norfolk placed all city employees except those of the school board and administrative officials under a merit system.

**Wisconsin.**—The State Supreme Court ruled against the city authorities in Milwaukee and held that assistant janitors and other helpers in the Milwaukee public schools are direct employees of the school board and therefore are subject to the local civil service laws. The city had contended that these persons were employees of the school engineer-janitor who hires them. The City Council of West Allis established a civil service system for the employees of that city.

### QUALITY OF ELIGIBLES

A familiar modern argument against the application of the civil service system to scientific, technical, and professional positions is the charge that the best of the young college graduates will not enter competitive civil service examinations as they can secure private employment without such effort, and the government service, therefore, does not attract

### III. THE NATIONAL GOVERNMENT

them. During 1939 the United States Civil Service Commission tested the validity of this argument by communicating with the colleges from which several hundred of the highest eligibles on each of the recently established registers for junior engineer and junior chemist had graduated. Reports were received from colleges covering more than 500 of the junior engineer eligibles and more than 400 of the junior chemist eligibles.

The reports of the colleges from which the junior engineer eligibles had graduated showed that 304 or 60.44 per cent had graduated in the first quarter of the class; 118 or 23.46 per cent in the second quarter; 56 or 11.13 per cent in the third quarter; and 25 or 4.97 per cent had graduated in the fourth quarter of their classes.

The showing of the high standard of eligibles secured by the Commission in its junior professional examinations was even more striking with respect to the junior chemist list. The colleges reported that 300 of the Commission's top eligibles had graduated from the first quarter of their classes, representing 70.09 per cent; 95 from the second quarter, representing 22.19 per cent; 26 from the third quarter, representing 6.08 per cent; and seven from the fourth quarter, representing 1.64 per cent.

These statistics confirm the claim of the United States Civil Service Commission that college graduates of the highest technical training are eager to serve the Government and are willing to prove their ability through the fair and open competition furnished by the competitive examination system.

### CHRONOLOGY OF THE NATIONAL GOVERNMENT AFTER ADJOURNMENT OF CONGRESS, 1939

(From *The New York Times*)

#### AGRICULTURE

**Aug. 7**—Secretary Wallace asserted that the nation should build "a stronger bridge between democracy and capitalism," probably by making our corporations "more democratic in form," with agricultural cooperatives as a model; the Export-Import Bank agreed to provide 80 per cent of credits, amounting to about \$13,750,000, to permit Nationalist Spain to acquire 250,000 bales of cotton in this country, to be delivered in ten monthly installments.

**Aug. 18**—Secretary Wallace offered to wheat growers payments of 18 to 20 cents a bushel on their 1940 wheat crop, compared with payments of 22 cents in 1939.

**Sept. 4**—Secretary Wallace appointed a war Agriculture Advisory Committee of non-government members to formulate policies for production, distribution and marketing of foodstuffs under conditions resulting from the European war.

**Sept. 11**—President Roosevelt, in his first effort to stem rising food costs, suspended the statutory quotas restricting the importation and domestic marketing of sugar, asserting that speculation for profit on a temporary shortage forced the step.

**Sept. 13**—Secretary Wallace approved proposed increases in prices paid to dairy farmers supplying the New York metropolitan area but ordered a referendum; he also warned farmers that war-time profits were bad for agriculture.

**Oct. 22**—Republicans in the House of Representatives organized a committee to formulate a farm policy for their party.

**Oct. 24**—President Roosevelt pushed plans for aid to farms in drought and flood stricken areas, arranging for \$50,000,000 relief by using the resources of four Federal agencies, without seeking new legislation.

**Nov. 8**—The Department of Agriculture estimated that the cotton crop

## CHRONOLOGY OF PUBLIC AFFAIRS, 1939

in the United States, at 11,840,000 bales, would be the smallest since 1935.

Nov. 23—Republican strategists in Congress decided to limit to "essentials" their attack on the New Deal's farm policies in the January session and to wait until the 1940 Presidential campaign to offer the party's substitute.

Dec. 5—Secretary Hull defended his reciprocal trade pact program before the American Farm Federation, saying its foes falsified the effect of the trade pacts on agriculture; Secretary Wallace declared the entire farm program had been put in jeopardy; the Department of Agriculture announced a reduction from  $1\frac{1}{2}$  to  $\frac{3}{4}$  cents a pound in the rate of export subsidy payments on lint cotton.

Dec. 7—Secretary Wallace said the export subsidy rate on cotton would be reduced from 75 to 40 cents a hundred pounds, effective Dec. 8, making the second reduction in two days.

Dec. 11—Secretary Wallace reported to the President a rapid reduction in the nation's carry-over simultaneously with another reduction to 20 cents a hundred pounds in the rate of subsidy payments under the cotton export program designed to reduce this carry-over.

Dec. 14—The Farm Credit Administration, a New Deal lending agency, lost its independent status with White House adoption of Secretary Wallace's position that "if he is going to have the responsibility he ought to have control of the organization."

Dec. 19—President Roosevelt confirmed reports that he was studying Secretary Wallace's tax-certificate plan for financing farm aid; the Department of Agriculture estimated farm marketing income for the year at \$7,625,000,000.

Dec. 20—President Roosevelt announced the resignation of F. F. Hill as governor of the Farm Credit Administration, giving full control over the agency to Secretary Wal-

lace and naming A. G. Black as Mr. Hill's successor.

Dec. 26—President Roosevelt terminated the suspension of the quotas restricting importation and domestic marketing of sugar.

### BANKING

Aug. 5—The President vetoed the Glass bill to delay for four more years the ban on interlocking bank directorates.

Aug. 24—John W. Hanes, Acting Secretary of the Treasury, declared that precautionary measures to protect the United States from the shock of sudden hostilities in Europe were ready "to meet any emergency."

Oct. 19—Three banking advisers whom he had called into the service of the Treasury Department were released by Secretary Morgenthau as the tension on government bonds eased.

Oct. 23—The Treasury reported that on Oct. 20 its holdings of gold amounted to \$17,010,033,770, an increase of more than \$3,000,000,000 within a year.

### BUDGETARY

Nov. 21—The White House lent encouragement to reports that President Roosevelt would have some surprising proposals to offer to Congress in his annual budget message in an effort to obviate tax increases and hold the 1941 fiscal year deficit to about \$2,000,000,000.

Nov. 24—President Roosevelt warned that disturbed world conditions would necessitate a record peacetime national defense budget of about \$2,250,000,000 next year and that the country must decide whether the bill would be met by special taxation or through additional Treasury borrowing.

Nov. 26—President Roosevelt intervened personally in the intra-administration fight growing out of his demand that government expenditures be cut to the bone in an effort to limit the 1941 fiscal year deficit to \$2,000,000,000; the Administration hoped to be able to



### III. THE NATIONAL GOVERNMENT

hold government costs to \$9,000,000,000.

**Nov. 27**—President Roosevelt pared the 1941 budget in a conference with Budget Director Smith; Secretary Morgenthau invited bids on an offering of \$500,000,000 of Treasury bonds bearing 2 per cent interest and maturing in 9 to 11 years, the first direct "new money" since last December, increasing the public debt to about \$42,000,000,000.

**Nov. 28**—President Roosevelt indicated that the projected \$500,000,000 increase in the 1941 national defense budget would be labeled in his coming budget message to Congress as the cost of keeping the European conflict as far as possible from American shores.

**Nov. 30**—The Treasury, after analyzing its debts and its latest borrowing of more than \$500,000,000, figured that it could still borrow about \$3,200,000,000 before reaching the public debt limit of \$45,000,000,000.

**Dec. 6**—The Treasury made public allotments totaling \$521,346,850 on its recent sale of 2 per cent bonds, \$21,693,400 going to applicants for \$5,000 or less.

**Dec. 19**—President Roosevelt made known that he would renew his demand on Congress in January that it provide for taxes to raise \$500,000,000 additional revenue with which to cover its appropriations in excess of budget estimates for farm benefits.

**Dec. 23**—The President completed his preliminary study of the budget and began drafting his budget message to Congress.

#### BUSINESS

**Aug. 10**—Secretary of Commerce Hopkins gave out plans for an economic survey in eight fields.

**Sept. 10**—The American Retail Federation sent to President Roosevelt a pledge to fight profiteering; the bituminous coal division of the Interior Department asked the Federal Trade Commission to permit it to intervene in the General Gas Pipe Line Corporation case in a

move designed to protect bituminous coal products from unnecessary competitive conditions.

**Oct. 6**—The Business Advisory Council of the Department of Commerce named a board headed by Don M. Nelson of Sears, Roebuck & Co. to study profiteering and the price situation.

**Oct. 20**—The Reconstruction Finance Corporation agreed to finance cotton exports, assuming 80 per cent of the risk.

**Nov. 20**—Emil Schram, chairman of the RFC, declared that if the private banking system would not advance to small businesses the reasonable loans which they required, the RFC stood ready to provide such credit.

**Nov. 23**—Secretary Hopkins proposed the formation of an interdepartmental committee to study and coordinate governmental activities in combating inroads on the free flow of commerce resulting from interstate barriers and asked the aid of the TNEC agencies, and business groups, in the investigation of its effects and possible reforms; the Social Security Board reported that 308,422 job placements had been made in industry in October, a new record for the year.

**Dec. 7**—A program for restoring national prosperity on the basis of free enterprise and reasonable regulation of industry by the government was adopted by the Congress of American Industry, sponsored by the National Association of Manufacturers; Senator Taft charged that four-fifths of American business men opposed the present Administration because of its "deliberately unfriendly" policies, and asserted that if business and government were to work together the government must change its policies or "the people must change their government."

**Dec. 10**—The Federal Trade Commission ordered the General Motors Corporation and the Ford Motor Company to cease using the words "6 per cent" in their advertising,

## CHRONOLOGY OF PUBLIC AFFAIRS, 1939

charging that installment buyers paid 11 per cent.

**Dec. 25**—Secretary Hopkins reported substantial gains in all branches of national economy.

### CIVIL AERONAUTICS

**Sept. 10**—The CAA approved the applications of 166 universities, colleges and schools to participate in the civilian pilot training program authorized by Congress.

**Sept. 28**—Forty more institutions were approved by the CAA as participants in the civilian pilot training program. Permission was granted to girls to take flying training.

**Oct. 4**—Post Office Department and Pan-American Airway officials urged the CAA to authorize a passenger and air mail service between California and Australasia.

**Oct. 31**—The CAA opened a public hearing on the application of the American Export Airlines, Inc., to operate a "non-stop" air service from New York to Europe. Pan American Airways opposed the application.

**Nov. 7**—The CAA designated both the Newark and North Beach airports as co-terminals for the New York-Northeastern New Jersey metropolitan area.

**Nov. 21**—President Roosevelt accepted the resignation of Sumpter Smith, chairman of the CAA Air Safety Board, so that the latter might devote his time to the design and construction of the new national airport at Washington.

**Dec. 7**—The CAA decided to offer 700 flight scholarships on a competitive basis to "non-college" citizens between the ages of 18 and 25.

### CIVIL SERVICE

**Sept. 30**—The executive branch of the Federal Government had 939,876 employes on its payroll—22,116 more than the World War peak of Nov. 11, 1918.

### COMMUNICATIONS

**Sept. 11**—Agreement to regulate radio coverage of Europe by the Colum-

bia, National and Mutual broadcasting systems was made public at Washington by President Miller of the National Association of Broadcasters.

**Sept. 14**—Radio station WMCA filed a denial with the Federal Communications Commission of an advertised hint that it had intercepted and broadcast secret naval and military orders of the German and British Governments.

**Sept. 27**—WMCA officials denied at an FCC hearing that there had been illegal interception of British and German messages.

**Nov. 29**—The FCC decided to recommend and advocate at the next session of Congress legislation to make possible a merger of the Western Union and Postal telegraph systems.

**Dec. 6**—The FCC ordered a 50 per cent increase in government rates on official domestic telegraph messages, effective Jan. 1.

**Dec. 8**—Joseph Selly, vice president of C. I. O.'s American Communications Association, charged that the FCC was ignoring the rights of labor in perfecting plans to permit a merger of the Postal Telegraph Company and the Western Union.

### CONGRESS

**Aug. 5**—Adjourned in spasm of political bitterness in which it had operated with ever-increasing frequency in seven months and two days of its existence, after appropriating over \$13,000,000,000.

**Aug. 6**—Representative Martin of Massachusetts, House minority leader, credited opposition gains in the session to solid Republican voting.

**Sept. 13**—President Roosevelt summoned Congress to meet in extra session to revise the Neutrality Act.

**Sept. 16**—Representative Thomas M. Eaton of Third California District died.

**Sept. 21**—Congress met in special session and heard the President, in an address delivered in person, advo-

### III. THE NATIONAL GOVERNMENT

cate immediate repeal of the arms embargo.

**Oct. 3**—Senator Marvel M. Logan of Kentucky died.

**Oct. 10**—Former Governor A. B. (Happy) Chandler was sworn as the successor of Senator Logan.

**Nov. 3**—Congress, having completed the new Neutrality Act, adjourned *sine die*.

#### DIES INQUIRY

**Aug. 16**—The House Committee Investigating Un-American Activities, otherwise known as the Dies committee, resumed its hearings, with Fritz Kuhn, head of the German-American Bund, as the witness; fist fight narrowly avoided between Kuhn and Representative Starnes of Alabama, member of the committee.

**Aug. 17**—Kuhn admitted before the Dies committee that he had ordered letters of the bund members destroyed; more clashes marked the hearing.

**Aug. 18**—Bund youth regime was denounced as "immoral" by a Brooklyn girl witness before the Dies committee.

**Aug. 22**—A Dies committee witness described the bund as an agency of the German Embassy and German Government.

**Aug. 26**—A preliminary report by the Dies committee alleged the existence in the United States of widespread war-time propaganda from many countries.

**Sept. 5**—Earl Browder, general secretary of the Communist party, told the Dies committee he had traveled abroad in the past two years on a false passport; also of an alleged \$250,000 "Republican" offer.

**Sept. 29**—William Z. Foster, Communist party chairman, told the Dies committee he would not support the United States if it entered the present "imperialistic war" in aid of France and Great Britain; that he would also ask the Communist party to bar support for the Allied side.

**Oct. 16**—The Dies committee announced that it would ask for authority to continue its hearings until Jan. 1, 1941.

**Oct. 22**—The Justice Department announced it was ready to act against Earl Browder for his admitted use of a false passport when traveling abroad.

**Oct. 23**—Dr. Harry F. Ward, general secretary of the American League of Peace and Democracy, told the committee that the Communist party gave financial support to the league.

**Oct. 25**—The committee published the names of 563 Federal employes purported to be members of the American League of Peace and Democracy, in conjunction with a statement labeling this a "Communist front" organization; the committee's action aroused sharp controversy within and without Congress.

**Oct. 27**—President Roosevelt declared that publication by the committee of the list of purported members of the American League of Peace and Democracy was a "sordid procedure."

**Oct. 28**—Chairman Dies, in a radio broadcast, accused the President of enmity toward the committee.

**Nov. 24**—Asserting that Russia had violated conditions under which she was recognized by the United States in 1933, Chairman Dies called for severance of diplomatic relations unless Russia "can give assurance the agreement will be kept."

**Nov. 26**—Witness before the Dies committee charged that New York City Local No. 5 of the American Federation of Teachers was controlled by Communists, and that the entire Federation appeared to be likewise dominated.

**Nov. 30**—Mrs. Franklin D. Roosevelt attended the inquiry and heard defense of American Youth Congress.

**Dec. 7**—Leon Trotsky revealed that he had accepted an invitation to

## CHRONOLOGY OF PUBLIC AFFAIRS, 1939

testify before the Dies committee, at Austin, Texas.

**Dec. 10**—Report by J. B. Matthews, research director, released by the Dies committee, alleged that Communists utilized consumer groups in effort to stir discontent among shoppers and to sabotage advertising.

**Dec. 11**—Representative Voorhis of California, a member of the Dies committee, accused it of using "undemocratic procedure" in preparing and making public the report on consumer groups, saying the report was "purely and simply the opinion" of J. B. Matthews, committee research aide, who placed it on record at a subcommittee meeting attended only by Chairman Dies.

**Dec. 12**—President Roosevelt told his press conference that the action of a one-man subcommittee of the Dies committee, in releasing the report of investigator Matthews, was one that spoke for itself.

### GOVERNMENT REORGANIZATION

**Sept. 8**—President Roosevelt ordered the immediate reorganization of the White House executive offices as a step toward preparing for prompt emergency action.

### HOUSING

**Aug. 27**—The Federal Housing Administration (FHA) announced a simplified financing plan to encourage the construction of small homes costing not more than \$2,500 each.

**Oct. 28**—The United States Housing Authority (USHA), in cooperation with Treasury officials, worked out a plan under which local housing authorities constructing Federally-aided low-rental slum-clearance housing might save 2 per cent on the total cost of their projects.

**Nov. 1**—Nathan Straus, Housing Administrator, said that to date the Federal Government had put up \$521,317,000 for 297 slum-clearance and low-rent housing projects in 135 communities.

### INLAND WATERWAYS

**Nov. 15**—Major Gen. Thomas Q. Ashburn, who, as president of the government-owned Inland Waterways Corporation since 1924 turned the agency from a \$1,000,000 annual deficit into a producer of annual net profits, was forced by the Commerce Department to resign his posts with the agency and its subsidiary, the Warrior River Tunnel Company. He attributed the action to a policy row.

### JUDICIARY

**Oct. 23**—The Supreme Court declined to review a decision of the District of Columbia District Court dismissing the Federal Government's anti-trust suit against the American Medical Association on the ground that the medical profession was not engaged in "trade" under the Sherman act; refused to interfere with a lower court ruling that the Houghton Mifflin Company owned a valid American copyright of *Mein Kampf*; refused to review a New York State decision refusing to award to the United States a \$1,000,000 fund accumulated by a Russian insurance company in this country; denied a request by Chicago milk-wagon drivers for a review of an injunction against picketing.

**Nov. 6**—The Supreme Court handed down its first opinion of the term unanimously upholding two provisions of New Deal laws (1) that Federal contractors could not include Social Security taxes in a contract with the government and (2) refusing to allow Maryland to charge a tax for recording mortgages of the Home Owners Loan Corporation.

**Nov. 7**—The City of Atlanta lost in the Supreme Court an opportunity to test the constitutionality of the National Bituminous Coal Act of 1937, Chief Justice Hughes saying that the court had no desire to hear the constitutionality plea.

**Nov. 16**—Pierce Butler, associate justice of the Supreme Court, died, leaving only one stalwart conserva-



### III. THE NATIONAL GOVERNMENT

tive and giving President Roosevelt an opportunity to name a fifth associate justice, a record exceeded only by Washington and equaled only by Jackson, Lincoln and Taft.

Nov. 17—President Roosevelt asserted at Hyde Park that nothing short of a real emergency could persuade him to nominate a new associate justice of the Supreme Court to take the place of Pierce Butler before January, when Congress would be in session.

Nov. 22—The Federal Government lost its fight in the Supreme Court to reverse the action of Judge Patrick T. Stone in dismissing charges as to 11 defendants in the Madison (Wis.) anti-trust cases against mid-Western oil operators; the Court ruled, in a decision by Justice Douglas, in the Los Angeles Lumber Products case, that the "Boyd doctrine" in the famous Northern Pacific Railway case of some years ago was "firmly embedded" in Section 77B of the Federal Bankruptcy Act; in a five-to-three decision, read by Justice Frankfurter, the Court ruled that a corporation may be sued in a state other than that in which it is incorporated; the Court also overruled municipal bans on circulating handbills in four cities.

Dec. 4—The Supreme Court further tightened anti-trust controls when it unanimously ruled that enactment by Congress of the Agricultural Marketing Act, the Capper and other farm acts, did not give the production and distribution of agricultural commodities immunity from anti-trust statutes; the Court overruled Northern Illinois Federal District Court which had dismissed price-fixing charges against milk producers and distributors in the Chicago area; it ruled unanimously, for the first time, that the welfare of rail workers was as important to the public interest as the maintenance of an adequate transportation system in a case upholding the requirement that employees be protected in rail consolidations; it ruled in the Newport News case

that an unaffiliated group, once partly controlled by a company, violated the Wagner Act; it refused to pass on the contention that the NLRB had no authority to direct reinstatement of strikers if a strike did not obstruct free flow of commerce.

Dec. 11—The Supreme Court shut the doors against the use of wire-tapping evidence in Federal criminal trials; the court upheld the right of the State of Texas to extend its taxing power beyond its borders in levying a franchise tax on Ford capital in business done in the state; affirmed the District of Columbia Court of Appeals in upsetting an injunction obtained by an A. F. L. local union to restrain a C. I. O. local from picketing; agreed to review the Minnesota Chain Store Tax Act of 1933.

Dec. 18—The Supreme Court upheld the Government's right to collect income taxes received by a personal holding company when the company had been set up to postpone payments to the individual, assertedly for purposes of tax evasion.

#### LABOR

Aug. 5—Speaker Bankhead, acting under Congressional resolution, named a committee to investigate the National Labor Relations Board.

Aug. 6—National Labor Relations Board ruled that the Wagner Labor Relations Act applies to national banks.

Aug. 11—Jurisdictional disputes in the building trades were ended by an understanding between the American Federation of Labor and a committee representing the Amalgamated General Contractors of America.

Aug. 15—NLRB, acting on a C. I. O. complaint, ordered the Bethlehem Steel Corporation to discontinue employe representation plans at ten plants in Pennsylvania, New York and Maryland.

Aug. 16—The Bethlehem Steel Corporation petitioned the Federal

## CHRONOLOGY OF PUBLIC AFFAIRS, 1939

- Circuit Court of Appeals to set aside the NLRB order requiring it to disestablish its employee representation plan.
- Aug. 18**—The Ford Motor Company defied the NLRB order to reinstate 24 men discharged for union activity and alleged that an attempt had been made in the case to bar freedom of speech.
- Sept. 29**—The NLRB ordered the Waumbee Mills, Inc., of Manchester, N. H., to pay two years' wages to two men it had never hired.
- Oct. 3**—President Roosevelt sent a message to an A. F. L. convention saying the labor peace efforts he undertook last February "must be continued until a sound negotiated basis of peace between the labor groups is reached and agreed upon."
- Oct. 6**—Senator Taft attacked the NLRB, declaring some of its decisions had resulted in the "worst perversion of justice this country has ever seen."
- Oct. 11**—President Roosevelt urged the C.I.O. convention to strive for peace in the labor movement, emphasizing that "national unity depends upon mutual confidence, good-will and cooperation."
- Nov. 1**—The NLRB, in unanimous ruling, ordered the Western Union Telegraph Company to disestablish and withdraw all recognition from the 20-year-old association of Western Union employes as the representative of the workers for grievances, labor disputes or other conditions of employment.
- Nov. 8**—The Third Circuit Court of Appeals, upholding the NLRB, ordered the Republic Steel Corporation to reinstate about 5,000 employes dismissed in the "Little Steel" strike of 1937 and pay them "lost" wages estimated at \$7,500,000.
- Nov. 16**—The NLRB ruled that the C.I.O. was exclusive representative of the employes in 11 Chrysler plants.
- Dec. 2**—Attorney General Murphy informed President Green of the A. F. of L. that the Department of Justice was following Supreme Court decisions in taking the position that labor unions were liable under the anti-trust laws.
- Dec. 11**—Sharp dissension among NLRB members was revealed at the opening hearing before the special House committee created to investigate the board. William M. Leiserson, newest member of the board, was the first witness. The committee produced a series of "confidential" memoranda in which it sharply criticized board methods and made charges against Nathan Witt, its secretary.
- Dec. 15**—The House committee investigating the NLRB summoned Edwin S. Smith, a member of the board, peppered him with charges that he sought to promote a union boycott of a hosiery mill and received flat and emphatic denials.
- Dec. 16**—The House committee investigating the NLRB heard testimony from James P. Miller, a deposed Regional Director, that he was instructed officially to make industry "fear" the agency and was ousted because he insisted on impartial administration of the law; Justice Department asked the Supreme Court to rule on prevailing wages.
- Dec. 29**—James M. Landis, Dean of the Harvard Law School, as special examiner, reported to Secretary Perkins that Harry Bridges, West Coast C.I.O. leader, was not a member of the Communist Party.

### MARITIME

- Aug. 16**—The Maritime Commission awarded contracts for five more combination cargo-passenger vessels for the transatlantic trade.
- Aug. 21**—The Maritime Commission awarded contracts for three cargo vessels for the South American trade.
- Sept. 20**—The Maritime Commission raised the pay of its sailors 25 per cent for war emergency service.
- Nov. 9**—First break in the deadlock imposed on American shipping by

### III. THE NATIONAL GOVERNMENT

- the Neutrality Act's ban on North Atlantic shipping when the Moore-McCormack Lines decided that its American Scantic Line would resume service to Scandinavian countries.
- Nov. 10—The President planned relief of seamen thrown out of work by the Neutrality Act and studied new uses for idle ships.
- Dec. 8—President Roosevelt received from Ambassador Kennedy a plan for using idle American shipping on foreign routes vacated by British and other belligerent nations outside immediate war zones.
- Dec. 9—The United States Lines withdrew its plan for transfer of eight liners to Panaman registry.
- Dec. 13—The Maritime Commission asked for bids for purchase or charter of the ships it has been operating to Australia and the Far East, so as to "take the government out of the ship operating business."
- MONOPOLY**
- Aug. 30—Acting on charges that the Fox West Coast Theatres Corporation and major motion-picture distributors had violated a 9-year-old consent decree, the Department of Justice started criminal contempt proceedings against 13 movie theatre and distributing units and 54 individuals. An official of the Prudential Insurance Company testified before the Temporary National Economic Committee (TNEC) that only a small percentage of its more than 20,000,000 policy holders voted in the annual election of directors and most of these acted through proxies obtained by company agents.
- Sept. 30—President Roosevelt, in a letter to Senator O'Mahoney, requested the TNEC to "invoke the forceful check of impartial public inquiry" against profiteering.
- Oct. 12—District of Columbia grand jury indicted, under the Sherman Anti-Trust Law, Local 639 of the International Brotherhood of Teamsters of the A. F. of L. on charges of conspiracy to obstruct work on government and private buildings by strikes, boycotts and violence, the case being the first in a nation-wide drive against curbs on construction.
- Oct. 23—William S. Farish, president of the Standard Oil of New Jersey, denied at a TNEC hearing that the oil business was monopolistic.
- Oct. 28—Milk price-fixing was charged by the SEC in a report to the TNEC.
- Nov. 7—B. F. Fairless told the TNEC that steel firms conferred over "extra" prices.
- Nov. 9—Eugene G. Grace, president of the Bethlehem Steel Corporation, told the TNEC that building battleships gave an unsound "prosperity."
- Nov. 10—Ernest T. Wier and Charles R. Hook contended before the TNEC that the iron and steel industry was highly competitive.
- Nov. 19—Thurman Arnold, assistant attorney general, in a letter to the secretary of the Central Labor Union of Indianapolis, asserted that labor union practices which had "no reasonable connection with such legitimate objectives as wages, hours, safety, health, undue speeding up or the right of collective bargaining" were punishable under the anti-trust laws.
- Nov. 22—Eight corporations said to supply more than 60 per cent of the sand and gravel used in the metropolitan area were indicted by a Federal grand jury investigating the building construction industry in New York City, in a proceeding begun by the Department of Justice.
- Dec. 14—Charles E. Mitchell, before the TNEC, denied there was a monopoly in investment banking.
- Dec. 15—George Whitney, partner of J. P. Morgan & Co., testified before TNEC, disclosing Morgan procedure in underwriting.
- Dec. 17—Investment bankers asked the TNEC to broaden its study of business.
- Dec. 19—Harold Stanley, president of Morgan, Stanley & Co., told the

## CHRONOLOGY OF PUBLIC AFFAIRS, 1939

TNEC that the competitive bidding for security-issue underwriting, which the SEC presented in a favorable light throughout the hearing, would tend toward "greater concentration than now exists."

Dec. 20—The TNEC hearings recessed until January after hearing Russell C. Leffingwell of J. P. Morgan & Co.

Dec. 22—A Federal grand jury returned an anti-trust indictment against three large electrical supply companies and others at Detroit.

### NATIONAL DEFENSE

Aug. 5—War Department contracted with seven civilian schools to train 1,000 air mechanics.

Aug. 9—The Federal Government set up a War Resources Board, headed by E. R. Stettinius, Jr., to assist in plans for mobilization; 17,000 National Guardsmen and 5,000 army regulars opened manoeuvres at Manassas, Va.

Aug. 10—War Department made contracts for \$85,000,000 worth of planes and engines, setting a peace-time record.

Aug. 29—Military guards were put on all ships using the Panama Canal. The army sent 1,085 men to the Canal Zone to bolster defense.

Sept. 1—Largest increase in the history of officer personnel of the Army Air Corps was made; assigned to flying training duty were 542 young men, 149 of them graduates of the latest West Point class.

Sept. 3—The navy took steps to evacuate Americans in Europe to neutral ports.

Sept. 6—The President placed the Panama Canal under full army rule. The army acquired its Caribbean air base, taking title to 1,877-acre Punta Borinquen tract in Puerto Rico.

Sept. 7—Army and navy sped up their recruiting campaigns to meet emergencies under neutrality laws.

Sept. 13—General Pershing, on his seventy-ninth birthday, called on

Congress to authorize a full peacetime army of 280,000 men. The submarine *Squalus* was finally lifted to the surface and towed to dock after a 113-day fight.

Sept. 29—Secrecy on movement of our naval vessels ordered as a precaution against espionage.

Oct. 3—The War Department ordered the purchase of 329 speedy tanks at a cost of \$6,000,000.

Oct. 7—Agents of the FBI investigated reports of sabotage aboard the 32,600-ton battleship *Arizona*.

Oct. 10—Orders totaling \$24,062,696 for munitions, supplies and construction, including an \$8,710,000 contract for semi-automatic rifles, were given by the War Department; strict control over flights of foreign aircraft in the Panama Canal Zone was provided in requirements issued by the State Department.

Oct. 11—The Navy's budget for the fiscal year 1941, delivered to the Budget Bureau, was the largest in the peace-time history of the United States, with more than \$900,000,000 requested. Major Gen. H. H. Arnold, chief of the Army Air Corps, revealed that that service's two-year program, now under way, contemplated 5,000 up-to-date planes and 45,000 trained enlisted men and 4,600 pilots by 1941.

Nov. 3—Chairman Vinson of the House Naval Committee announced his intention of introducing, with Administration approval, a naval authorization bill authorizing the appropriation of \$1,300,000,000 for 95 combatant ships, including three aircraft carriers, eight cruisers, 52 destroyers and 32 submarines; the bill also to provide for a maximum naval air strength of 6,000 planes, 36 lighter-than-air craft and 21 auxiliary vessels.

Nov. 15—Plans for two cruisers, the *Columbia* and *Cleveland*, the Navy Department revealed, will be altered in the light of developments connected with Germany's 10,000-ton "pocket battleships."



### III. THE NATIONAL GOVERNMENT

- Nov. 17—The President said that flaws in new destroyers had been corrected.
- Nov. 21—The government acted to aid war plants expansion through a tax concession policy to American manufacturers who must expand their facilities to meet national defense equipment needs.
- Nov. 24—President Roosevelt warned that world conditions necessitated a record peace-time national defense budget of about \$2,250,000,000 in the fiscal year 1941, and that the country soon must decide whether the bill would be met by a special defense tax or through additional borrowing. The President announced that he had dissolved the War Resources Board.
- Nov. 25—Acting Secretary Edison declared in his annual report that the navy was "prepared to exercise its vital function of bringing the enemy to our terms as quickly as possible while keeping him at a safe distance from our shores."
- Nov. 27—Admiral Clark H. Woodward, commandant of the Third Naval District, announced that the United States would construct at once a naval air base for at least 24 flying boats on Jamaica Bay, N. Y.
- Dec. 4—Secretary Morgenthau made public the terms of the first so-called "closing agreement" entered into by the Treasury on armament orders, barring extra profits for munitions suppliers.
- Dec. 8—Rear Admiral J. O. Richardson was designated as commander in chief of the United States Fleet.
- Dec. 15—Major Gen. William P. Upshur, commander of the Fleet Marine Base Force, was designated to assume command of the Department of the Pacific.
- Dec. 21—Colonel Charles A. Lindbergh quit as a member of the National Advisory Committee on Aeronautics; the navy awarded contracts for two huge dry docks at the Pearl Harbor Naval Base.
- Dec. 22—The House Appropriations Naval Subcommittee asked the Navy Department to submit estimates on the cost of a 65,000-ton battleship.
- Dec. 30—President Roosevelt announced the appointment of Charles Edison as Secretary of the Navy.

#### POWER

Aug. 11—Dr. Arthur E. Morgan, former head of the Tennessee Valley Authority, lost his suit challenging the right of President Roosevelt to remove him.

Aug. 15—The Federal Government, through its vast public power agency, the TVA, entered the electric light and power business on a large scale when the TVA, in conjunction with towns, cities and co-operatives in Tennessee, took possession of the Tennessee Electric Power Company, one of the prize-operating subsidiaries of the \$1,000,000,000 Commonwealth and Southern Corporation, for the agreed price of \$78,000,000.

Oct. 14—President Roosevelt consolidated government power committees by transferring the work of the National Defense Power Committee to the National Power Policy Committee.

Nov. 24—Secretary of the Interior Ickes, as chairman of the National Power Policy Committee, scheduled a series of conferences with officers of 50 private electric companies to discuss methods of "meeting the country's future power demands."

Dec. 5—Under the urging of the President a group of power executives and government officials met at Washington to start a study of an integrated system of private and public electric power production as part of the national defense.

Dec. 11—President Roosevelt added Emil Schram, chairman of the RFC, to the National Power Policy Committee.

#### THE PRESIDENT

Aug. 5—Vetoed the Glass bill to delay for four more years the ban on interlocking bank directorates.

Aug. 7—Declared that the objectives of his 1937 battle with the Senate

## CHRONOLOGY OF PUBLIC AFFAIRS, 1939

- over the Court Reorganization Bill had been won.
- Aug. 8—At Hyde Park he accused the anti-New Deal Congressional coalition of Republicans and conservative Democrats of gambling with world peace and with the economic well-being of the country.
- Aug. 9—Ordered that a drive be made to cut government expenditures.
- Aug. 10—Sent a message to the Young Democrats warning the party not to change to conservative in 1940.
- Aug. 11—Served notice that if war threatened abroad he would call Congress.
- Aug. 13—Motored from Hyde Park and sailed from New York on the cruiser *Tuscaloosa* for a sea trip.
- Aug. 14—At Campobello Island, he said that he was moving up Thanksgiving Day from Nov. 30 to Nov. 23.
- Aug. 20—As fog prevented mail planes reaching him, cut short his vacation cruise in Newfoundland, turning back to Halifax.
- Aug. 23—Disturbed by European outlook as Germany and Russia signed a ten-year non-aggression pact, he sped on the cruiser *Tuscaloosa* for Red Hook, N. J., to board a train for Washington.
- Aug. 24—Sent three appeals for preservation of the world's peace to Chancellor Hitler of Germany, President Moscicki of Poland and King Victor Emmanuel of Italy.
- Aug. 25—Sent a new peace plea to Hitler, after receiving a favorable reply from President Moscicki.
- Aug. 30—Received the Marquess of Lothian as British Ambassador.
- Sept. 1—Urged five European powers to refrain from bombing civilians in event of war.
- Sept. 2—Designated Dr. Ernest H. Gruening as Governor of Alaska.
- Sept. 3—In message broadcast to "the whole of America," he called for adjournment of all partisanship and selfishness and substitution of complete national unity to the end that the world war might be kept from the Western Hemisphere.
- Sept. 5—Issued two proclamations declaring the neutrality of the United States in the European war.
- Sept. 7—Sounded leaders of the Senate regarding special session on revision of the Neutrality Law.
- Sept. 8—Proclaimed that "a limited national emergency" existed.
- Sept. 9—Ordered an immediate reorganization of the White House executive offices; canceled a radio address on "Democratic Woman's Day."
- Sept. 12—Said that Canada's declaration of war against Germany did not alter his pledge to the Dominion that the United States would be quick to prevent any attempt at domination of its soil by any non-British foreign power.
- Sept. 13—Called Congress to meet in special session on Sept. 21 to consider lifting the arms embargo.
- Sept. 14—Conferred with Bernard M. Baruch at the White House.
- Sept. 20—Conferred with 14 Democratic and Republican leaders, including Landon and Knox, at White House.
- Sept. 21—Addressed Congress, in extra session, advocating repeal of the arms embargo.
- Oct. 3—Disclosed that he had ordered the War and Navy Departments to ignore statutory prohibitions against budgetary deficits for housing, hospitalization and reconditioning vessels.
- Oct. 6—Stated at Hyde Park that the nation's offshore patrol of naval and Coast Guard vessels and planes would be called upon to protect American shipping whenever advisable.
- Oct. 7—Stated at Hyde Park that he would say nothing about Berlin suggestions that Germany would agree to a truce if the President called it.
- Oct. 9—Returning to Washington from Hyde Park; White House said that the neutrality patrol had

### III. THE NATIONAL GOVERNMENT

- sighted a foreign submarine in the vicinity of two alien oil tankers near Key West.
- Oct. 13—Indicated in his press conference that he had no disposition to intervene as peacemaker on unofficial suggestions from Berlin.
- Oct. 17—Called on the Intergovernmental Committee on Political Refugees, at a White House conference, to redouble its efforts for meeting the immediate situation and to begin preparation of a long-range program.
- Oct. 18—To keep the war from American shores, he issued a proclamation, closing United States ports to belligerent submarines.
- Oct. 20—Explaining at Hyde Park his proclamation barring submarine activities within the three-mile limit, he warned that this was not intended to define this nation's territorial waters.
- Oct. 21—Toured his forest lands at Hyde Park and inspected the site of the Roosevelt memorial library.
- Oct. 22—Attended church at Hyde Park where he heard a prayer that King George VI might "overcome all his enemies."
- Oct. 23—Returned to Washington.
- Oct. 27—Endorsed a move for adjustment and lowering of Latin-American debts.
- Oct. 31—Placed at \$275,000,000 the cost of his program for safeguarding American neutrality; proclaimed Nov. 23 as Thanksgiving Day.
- Nov. 1—The White House replied to Soviet Premier Molotoff's characterization of the President as a "meddler" in the relations between Moscow and Finland.
- Nov. 2—Commenting on a Congressional proposal to recall United States Ambassador to Moscow, he struck back at the "bad manners" of Molotoff and the Soviet Foreign Office.
- Nov. 4—Signed the Neutrality Resolution.
- Nov. 5—Returned to Hyde Park to vote in the state election.
- Nov. 11—Urged the need for "a new and better peace" in an address by telephone from the White House to Virginia Military Institute; paid tribute to the Unknown Soldier.
- Nov. 15—In a speech at the cornerstone laying for the Thomas Jefferson Memorial, condemned government by dictatorship.
- Nov. 18—At Hyde Park he declared his intention to make available, by July, 1941, to research workers his personal and official correspondence.
- Nov. 19—At Hyde Park laid cornerstone of the building that will house his papers.
- Nov. 21—Said that the shipping registry plan was a closed issue; left Washington for Warm Springs, Ga.
- Nov. 23—Sat at the head of the table at the Founders Day Thanksgiving dinner at Warm Springs.
- Nov. 24—Warned, at Warm Springs, that disturbed world conditions would necessitate a record peacetime national defense budget of \$2,250,000,000.
- Nov. 27—Conferred with Budget Director Smith and pared budget estimates.
- Nov. 28—Said at Warm Springs that the projected \$500,000,000 increase in national defense expenditures would be labeled as the cost of keeping the European conflict from American shores.
- Nov. 29—On the way from Warm Springs to Washington he halted at Asheville, N. C., to visit his convalescing secretary, Marvin H. McIntyre.
- Nov. 30—Returned to Washington and devoted his entire day to the crisis following Russia's invasion of Finland.
- Dec. 1—Said that current electric power production was adequate to meet business and industrial needs.
- Dec. 2—Expressed condemnation of the invasion of Finland by proclaiming "a moral embargo" on sale to Russia of United States planes and equipment that might be used

## CHRONOLOGY OF PUBLIC AFFAIRS, 1939

in bombing civilians and open cities.

Dec. 5—Disclosed plans for aiding Finland by permitting use of the Dec. 15 payment on the war debt for the benefit of the Finnish people, subject to Congressional approval.

Dec. 6—Sent message to President Kallio on the twenty-second anniversary of Finland's independence; conferred with William Green, president of the A. F. of L., on the intra-labor rift.

Dec. 7—Attended the National Press Club's annual dinner.

Dec. 8—Ascribed blame for Ohio's relief crisis to Governor Bricker and the State Legislature.

Dec. 9—Conferred with Finnish Minister Procope on a loan to Finland; attended the annual dinner of the Gridiron Club.

Dec. 11—Authorized the expenditure of \$1,248,991 for three WPA projects in Cleveland.

Dec. 12—Asserted that he intended to ask Congress next month to extend the life of the Reciprocal Trade Agreement Act, which was due to expire in June.

Dec. 14—Left Washington for Hyde Park.

Dec. 19—Returned from Hyde Park to the White House; conferred with John L. Lewis in a renewal of the labor peace move.

Dec. 21—Said that he would prevent starvation in Ohio, if it became necessary, just as he did in the Ohio River flood disaster when he sent army soup kitchens.

Dec. 22—Advocated a program of Federal construction of hospitals and medical centers for needy areas; rejected the Wagner Health Bill for immediate solution of the problem as too costly.

### RELIEF

Aug. 6—Washington ordered WPA layoffs resumed.

Aug. 15—Commissioner Harrington issued a new nation-wide "security wage" schedule, effective Sept. 1,

under which unskilled workers in the South would receive WPA pay increases and those in the North decreases.

Dec. 12—President Roosevelt asserted that workers on WPA relief projects had no right to strike against the government but might organize.

Dec. 21—Colonel Harrington asserted that, thanks to business improvement, relief rolls had been cut 1,000,000 in the year to 2,122,960 on Dec. 13.

### SECURITIES

Aug. 7—Robert E. Healy of the Securities and Exchange Commission, in an opinion, asserted vigorously the principle that in all reorganizations the general rule of the preservation of priority rights should be maintained; the SEC granted the application of the National Association of Securities Dealers, Inc., for registration under the Maloney Act as a national securities association.

Oct. 12—Investment-trust methods were again hit by the SEC in a report to Congress.

Oct. 24—SEC asked insurance officials for their views on the adequacy of present insurance regulation.

Nov. 13—The SEC listed uniform bookkeeping rules for brokers and dealers.

Nov. 20—In a report to Congress covering period of rapid merger and reorganization of investment companies from 1929 to 1935, the SEC declared stockholders of some management investment companies were "sold down the river" in some cases where the management sought to get out without bankruptcy.

Nov. 27—The SEC completed its part of the financial reorganization of a corporation without a bankruptcy proceeding, the first such step by an administrative agency of the government.

Dec 1—The SEC resorted to the "death sentence" provision of the Holding Company Act for the first time to assure for itself adequate authority to compel the financial simplification and geographical inte-



### III. THE NATIONAL GOVERNMENT

gration of a non-bankrupt holding company system, if that should become necessary.

#### SOCIAL SECURITY

**Aug. 5**—Senate completed action on Social Security Act amendments liberalizing the program by \$1,200,000,000 and carrying tax savings to employers and employees estimated at \$905,000,000; freezing the payroll tax at 1 per cent for three years instead of permitting it to go to 1½ per cent in 1940.

**Aug. 7**—Chairman Altmeyer of the Social Security Board said that under the amendment law old-age insurance costs would rise from \$56,000,000 to \$114,000,000 in 1940 and that there would be an increase of \$60,000,000 in public assistance and other benefits; that during the next 15 years the costs under the act were expected to rise steadily from \$8,500,000,000 to \$15,500,000,000.

**Nov. 16**—The President conferred with Paul V. McNutt, Federal security Administrator, on a proposal for broadening Social Security program.

**Dec. 21**—It was revealed that the President had quietly removed Paul V. McNutt from leadership in the work for a national health program, by reviving the interdepartmental committee to coordinate health and welfare activities.

#### TARIFF

**Aug. 16**—Acting Secretary of State Welles announced the intention of the United States to negotiate a new reciprocal trade agreement with Belgium.

**Aug. 23**—Mr. Welles gave notice of intention to negotiate a reciprocal trade pact with Argentina.

**Sept. 2**—The government decided to push the drive for reciprocal trade pacts in Latin America to offset the effects of the war.

**Oct. 2**—Secretary Hull gave notice of intention to negotiate a reciprocal trade pact with Chile.

**Oct. 20**—Secretary Hull announced an intention to negotiate a reciprocal trade pact with Uruguay.

**Oct. 31**—The reciprocal trade pact program was attacked by Senator Vandenberg in the Senate.

**Nov. 6**—The United States signed a reciprocal trade pact with Venezuela, lowering the import duty on oil 50 per cent.

**Nov. 17**—Germany and the territories she absorbed were put on the government's blacklist by President Roosevelt in proclaiming the trade agreement with Venezuela.

**Nov. 24**—Secretary Hull returned to Washington from a vacation, found his trade agreement program under vigorous attack, and promptly went to its defense, asserting it had been misrepresented and assailing the results of the Smoot-Hawley Tariff Act.

**Nov. 26**—Senator Pittman protested a proposed reciprocal trade pact with Chile which, he said, would open United States markets to low-priced foreign copper. Mr. Hull expressed gratification at Prime Minister Chamberlain's assertion that there could be "no lasting peace unless there is a full and constant flow of trade between nations."

**Dec. 5**—Secretary Hull defended the trade pacts before the American Farm Bureau Federation, saying effect on agriculture had been falsified.

**Dec. 18**—Supplementary trade agreement with Cuba, providing for restitution of the 90 cents a hundred-pounds rate on Cuban sugar whenever the President should restore the quota, was signed.

**Dec. 21**—The State Department announced there would be no concessions by the United States on Chilean copper and copper products.

**Dec. 26**—Secretary Hull said he welcomed any thorough investigation of the reciprocal trade agreements and denounced the Hawley-Smoot tariff embargo policy.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

### TAXATION

**Aug. 17**—Treasury Department asked leaders of industry, banking, agriculture and labor to express their views on taxation, and cooperate in the study of the Federal tax structure being made by that Department and a subcommittee of the Ways and Means Committee.

**Nov. 16**—Sharp repudiation from the Treasury Department of the tax-raising program of Chairman Marriner S. Eccles of the Federal Reserve Board, was made by John W. Hanes, Acting Secretary of the Department, who told reporters that Mr. Eccles did not speak for the Administration, Congress or the Treasury when it came to taxes.

**Dec. 21**—Mr. Hanes resigned as Under Secretary of the Treasury.

### WAGES-AND-HOURS

**Aug. 20**—The Wages and Hours Administration issued its first comprehensive summary of the Wages-Hours Law's application to agriculture.

**Aug. 21**—Made public its first minimum wage order, effective Sept 16, raising the wages of 46,000 hosiery workers.

**Oct. 17**—President Roosevelt announced the resignation of Elmer F. Andrews as Wages and Hours Administrator and designated Colonel Philip Fleming of the army engineer corps to take over his duties.

**Oct. 22**—The Labor Department estimated that 690,000 wage-earners would receive pay increases after Oct. 24 as a result of wage schedule increases provided for in the statute and that 2,382,500 workers would have their working hours reduced from 44 to 42 hours a week.

**Oct. 23**—Colonel Philip Fleming took charge of the Wages and Hours Administration and pledged himself to an honest effort to enforce the law without "crack-downs."

**Nov. 22**—A Federal District Court ordered Montgomery Ward & Co., mail-order and chain company, to hand over to the Wages and Hours Administration all demanded records.

**Dec. 1**—Harold D. Jacobs was appointed Wages-Hours Administrator to serve until Congress removed a statute ban preventing the nomination of Lieut. Col. Fleming.

## PERIODICAL PUBLICATIONS

*Army and Navy Journal*  
1701 Connecticut Ave. N.W., Washington, D.C.

*Civil Service Standard*  
277 Broadway, New York City.

*Congressional Digest*  
2131 LeRoy Place, Washington, D.C.

*Congressional Directory*  
U.S. Government Printing Office,  
Washington, D.C.

*Congressional Record*  
U.S. Government Printing Office,  
Washington, D.C.

*United States News*  
22nd. and M Streets N.W., Washington, D.C.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

ACADEMY OF POLITICAL SCIENCE, Fayerweather Hall, Columbia University, New York City.

AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE, 3457 Walnut St., Philadelphia, Pa.

### III. THE NATIONAL GOVERNMENT

AMERICAN BAR ASSN., 1140 N. Dearborn St., Chicago, Ill.	INSTITUTE OF PUBLIC ADMINISTRATION, 302 E. 35th St., New York City.
AMERICAN HISTORICAL ASSN., 740 15th St., N.W., Washington, D. C.	LEAGUE FOR POLITICAL EDUCATION, 123 West 43rd St., New York City.
AMERICAN POLITICAL SCIENCE ASSN., 305 Harris Hall, Northwestern University, Evanston, Ill.	NATIONAL ASSN. OF LEGAL AID ORGANIZATIONS, School of Law, Duke University, Durham, N.C.
COMMERCIAL LAW LEAGUE OF AMERICA, 111 W. Monroe St., Chicago, Ill.	NATIONAL CIVIL SERVICE REFORM LEAGUE, 521 Fifth Ave., New York City.
HONEST BALLOT ASSN., INC., 27 William St., New York City.	

## DIVISION IV

### STATE GOVERNMENT

#### STATE ADMINISTRATION AND LEGISLATION

By THOMAS S. GREEN, JR.\*

STAFF MEMBER, THE COUNCIL OF STATE GOVERNMENTS

##### GENERAL

All states except Kentucky, Louisiana, Mississippi, and Virginia held regular legislative sessions during 1939, and Alabama, Arkansas, Colorado, New York, and Rhode Island called special sessions in addition. These sessions, lasting from 39 to 269 days, dealt principally with problems of taxation, public welfare, labor, administrative reorganization, civil service, housing, planning and zoning, and highways.

Commissions on Interstate cooperation were established by statute for the first time in Delaware, Maine, and Utah, and the Governor of Nevada and the Attorney-General of Texas respectively appointed similar commissions. In Kansas a Commission on Interstate Cooperation was established by resolution. Many conferences were held by these commissions in cooperation with the Council of State Governments on problems that overlap state boundaries, and resulted in constructive legislative proposals and administrative agreements.

As important a development as the enactment of new constructive legislation has been the repeal of trade barrier laws during the year. These trade barriers, affecting important products shipped in interstate commerce, are now numbered in the hundreds, although all but a few did not make their appearance until the last three or four years. Breeding retaliation

and counter-retaliation among the states, their repeal is as indicative of foresight and statesmanship on the part of the legislatures as is the enactment of progressive social legislation or sound administrative organization.

By and large, the legislative measures enacted in 1939 indicate definite trends in governmental policy and brought forth many concrete programs.

##### TAXATION

Federal legislation, which permits the Federal Government to tax state public salaries, brought on the most outstanding state tax legislation in 1939. Fifteen states—Alabama, Arkansas, California, Colorado, Delaware, Iowa, Kansas, Minnesota, Montana, New York, North Carolina, Oklahoma, South Carolina, Wisconsin, and Vermont—amended their laws so that they might tax the incomes of those who receive Federal salaries. Eleven others were already able to do so under existing laws. Although the constitutionality of taxing public bonds is still undecided, six states revised their laws in anticipation—Alabama, Colorado, Iowa, Kansas, North Carolina, and Oklahoma.

The District of Columbia is the only jurisdiction this year to levy

\* Prepared with the assistance of Joanne Bolger, Research Assistant, The Council of State Governments.



#### IV. STATE GOVERNMENT

an income tax for the first time (see "District of Columbia," p. 226). Among the more important sources of state revenue, the gasoline tax received attention in most states, though no new states were added to the roster. New York, Massachusetts, Rhode Island, and New Hampshire adopted tobacco taxes, bringing the total to 25 states. Arkansas and Alabama made permanent their provisional sales tax laws. Alabama, Arkansas, New Mexico, North Carolina, North Dakota, and South Dakota enacted use taxes for the first time. Alcoholic beverages, already taxed in all states, will carry heavier excise fees in 12 states during the forthcoming year. Pari-mutuel betting will be taxed 20 per cent instead of 10 per cent in Nevada, two per cent instead of one per cent in Maryland. It has been approved by constitutional amendment in New York.

In the field of tax administration, 1939 witnessed many changes. Alabama, Kansas, Ohio, and Minnesota abolished their tax commissions and set up instead departments of taxation headed by a commissioner or director. Minnesota created a Board of Tax Appeals as an administrative agency and Ohio enlarged the functions of its Board. Iowa replaced its State Board of Assessment and Review with a Tax Commission, and Rhode Island established a Department of Coordination and Finance to administer its taxation.

#### **PUBLIC WELFARE AND SOCIAL INSURANCE\***

The 1939 legislatures enacted 600 welfare statutes covering a wide range of subjects such as child welfare, public assistance, state and county public welfare organization, and unemployment compensation. They considerably improved the organizational structure of public welfare departments, approved merit provisions for personnel, liberalized public assistant statutes, and simplified provisions for unemployment compensation.

\* See "Recent Trends in Public Welfare Legislation" by Marietta Stevenson in *The Social Service Review* for September, 1939.

Old age assistance bills were the most frequently introduced, although comparatively little legislation was enacted on this subject. These bills, totalling 745, greatly outnumbered the introductions in 1937, which gives some indication of the continued interest in this subject.

Although it is true that in a majority of states more than 50 per cent of the funds expended for all types of relief to needy individuals is disbursed in old age assistance payments, standards are still inadequate. Some states have sought to raise them by securing more Federal money. California and Wisconsin both asked an increase of the \$15 maximum Federal contribution. Citizenship requirements for old age assistance have been eliminated this year in five additional states—North Carolina, North Dakota, South Dakota, Oregon, and West Virginia—making a total of 27 states and the District of Columbia which now extend old age assistance to their non-citizen residents. The defeat of the Townsend Plan and the probable passage of liberalizing amendments to the Social Security Act by Congress leads one to expect that there will be less pressure for impossible schemes in the future and more legislation along constructive lines.

Little legislation was passed relating to aid to dependent children, the tendency being in several states to raise the age limit from 16 to 18 and to set higher maximums as to the amount of grants.

Federal handling of work relief has made it difficult for state legislatures to plan intelligently for general relief. New York State is an excellent example of the disrupting effect the Federal changes have had on the state program. The federally administered work relief program, begun in 1935, terminated previous state and local set-ups. The Federal program did not meet the complete need, and the 1939 legislature passed three bills authorizing localities to administer work relief. The governor vetoed them because of the difficulty which might result from two work relief programs.

National polls of public opinion indicate that the majority of the people favor governmental responsibility in behalf of medical and hospital care for the medically indigent, with a persistent minority favoring health insurance. There was a definite trend in 1939 toward low-cost hospitalization as exemplified by non-profit hospital service plans. Aside from the large number of bills introduced providing for incorporation of such non-profit hospital service plans, bills were passed in Maine, New Mexico, and Rhode Island. New York has continued the commission to study the problem of medical care in the state with an additional appropriation of \$40,000. The problem of the unemployed worker who is ill and, therefore, not eligible for unemployment insurance benefits, has been made the object of investigation in New Hampshire.

Thirteen states placed non-profit hospital service plans under the supervision of the State Departments of Insurance during 1939, bringing the total to 24.

The trend in unemployment compensation legislation has been toward simplification. Because payment based on a strict percentage of weekly wages is too cumbersome to administer, 12 states adopted flat benefits within wage classifications. The states thus amending their laws were California, Florida, Idaho, Maine, Maryland, New Mexico, New York, North Carolina, Rhode Island, South Dakota, Tennessee, and West Virginia. Minnesota placed its unemployment compensation system under a newly created Department of Social Security by removing unemployment compensation and unemployment services from its jurisdiction and establishing a one-man commission of Unemployment Compensation and Placement to administer these two functions.

New state welfare departments were established in Idaho, Maryland, Michigan, Minnesota, Oregon, Rhode Island, and Texas, and Iowa, Kansas, Maine, Tennessee, and Washington made very substantial changes in the organization of existing agencies.

## LABOR

The tendency in several states to enact measures running counter to the Wagner Act, and seriously restricting the rights of labor to organize and to bargain collectively was the outstanding feature in the field of state labor legislation in 1939. Wisconsin and Pennsylvania drastically changed their labor relations laws, while Michigan and Minnesota enacted new, far-reaching legislation restricting employees in their rights to organize and bargain collectively. The laws of these last two states furthermore require truce periods before strikes and lock-outs, in order to allow time for negotiation and mediation. In public utilities and other vital industries the truce period is 30 days; in other occupations it is five and ten days respectively. In addition, the Minnesota law prohibits picketing in the absence of a strike, and requires that a majority of pickets be employees of the establishment.

Practically all of the legislatures in session considered bills amending their workmen's compensation laws, and amendments dealing for the most part with administrative and technical changes were enacted in 34 states. In addition, Arkansas, Idaho, and Maryland enacted occupational disease laws, bringing the total number of states compensating for occupational disease to 24 plus the District of Columbia.

Five states enacted laws relative to child labor. West Virginia reduced the hours of work for minors under 16 from 48 to 40 and limited the issuance of work permits so as to raise the basic minimum age from 14 to 16.

A unified labor department, with adequate powers to administer labor laws and to issue industrial safety and health codes, was created in Alabama for the first time. Vermont created a new Department of Industrial Relations to exercise powers in respect to labor laws. Colorado, Rhode Island, and Minnesota reorganized their departments in such a way as to provide for the administration of unemployment compensation and the

#### IV. STATE GOVERNMENT

employment service by independent agencies outside the labor department.

##### ADMINISTRATIVE REORGANIZATION

Varying degrees of administrative reorganization took place in several state capitals. The plan adopted in Rhode Island vests sweeping powers in the Governor, and permits the department directors to set up subdivisions or administrative units which may be necessary within the major departments. The principle section of the act set up an integrated Department of Coordination and Finance to supervise all of the fiscal functions of the state, including budget preparation and control, centralized purchasing, tax administration, accounting, and control of changes in personnel. Other sections of the act established a Legislative Council (as yet inoperative since minority members have refused to accept appointment) and a Commission on Interstate Cooperation.

Iowa passed a reorganization and consolidation program. Under a new State Department of Public Safety were placed the Motor Vehicle Department, the Highway Patrol Licensing and Registration Division, and numerous investigative and police units of the state. Legislative budgeting of the State Highway Commission expenditures was also authorized.

Centralized budget control was established in Maryland through the creation of a Department of Budget and Procurement. This change also resulted in the abolishment of the purchasing agent. A Legislative Council of 15 members, 14 of them legislators, was established.

Kansas also enacted legislation to reorganize departments and commissions of the state government. The Fish and Game Commission was re-created on strictly non-partisan lines, and a merit system for that agency was installed. As in Iowa, a full-time Board of Social Welfare was established to take the place of a larger part-time board.

A State Planning and Resources

Board was reorganized in Oklahoma. The State Tax Commission was revamped, as were the State Industrial Commission and the State Highway Commission. A Legislative Council composed of 15 representatives and ten senators was established as the research arm of the legislature.

In Wyoming the Governor's recommendations for reorganization of the State Game and Fish Departments, and for the consolidation of the positions of purchasing agent and secretary of the Charities and Reform Board were approved, as well as his suggested consolidation of the State Planning and Water Conservation Boards. Departments were also reorganized in Arizona, Idaho, Tennessee, and Vermont.

Minor administrative consolidations were effected in Alabama, Arizona, Arkansas, Georgia, Indiana, Maine, Montana, Oregon, Pennsylvania, and South Dakota.

##### CIVIL SERVICE

Seventeen states now have civil service laws in effect, those of Alabama, Minnesota, New Mexico and Rhode Island having been adopted this year. In Rhode Island, where the Public Administration Service carried through a complete reorganization of the state government, a strong civil service provision was included in the new administrative act and as a result of this law, some 85 per cent of state employees will be chosen from the new civil service rolls. The principle setback of the year occurred in Arkansas where the legislature repealed its civil service law. Another was experienced in Michigan where the civil service administration was reorganized and the number of employees in the classified service was reduced from 15,000 to 7,000. The Massachusetts civil service system was reorganized as a result of recent legislation, now providing for a part-time five-member commission and a personnel director who will supplant the former three-member salaried commission with its chairman-administrator. Other changes in civil service, but relatively



unimportant, were made in Colorado, Idaho, Ohio, and Tennessee.

Improvements in methods of selecting personnel directors, and provisions giving the directors more complete charge of the technical functions of state merit systems were significant developments. Eight of the states which adopted or amended their civil service laws in 1937 or 1939 delegated to the personnel director the administration of all technical functions of the merit system, instead of following the former fashion of establishing full-time, bipartisan commissions to supervise all operations. Under the newer laws, the civil service commissions are relieved of responsibility for technical and administrative details. They act in an advisory capacity on major policies. States in which this procedure is followed under the provisions of recent laws include Alabama, Connecticut, Maine, Massachusetts, Michigan, Minnesota, Rhode Island, and Tennessee. The personnel director, appointed directly by the Governor in most states, is chosen from an eligible list established through competitive examination in two of the states—Rhode Island and Minnesota—which adopted civil service in 1939. The civil service commission in Minnesota actually makes the final choice. In Rhode Island the commission selects the examining committee and thus shares with the Governor, who makes the final choice, the responsibility for securing a well-qualified person. Provision for in-service training of state employees as a regular function of the state personnel agency was written into the laws of Alabama, Minnesota and Rhode Island this year. The personnel director is in charge of this training.

## HOUSING

The most significant development in housing was the passage in New York of the Desmond-Moffett Bill, designed to bring state and local government money into the low-rent housing field. Under provisions of the act, the state may loan \$150,000,000 to housing authorities, and give

\$1,000,000 in subsidies, although the localities must match the state subsidies or offer tax exemption instead. Two-thirds of these loans and subsidies will go to New York City. On the administrative side, the former five-member State Housing Board will be replaced with a single head, to be called the Superintendent of Housing of the State Division of Housing.

Five states—Arizona, Idaho, Missouri, New York, and Washington—added their names to the states which have passed enabling legislation for local housing authorities, bringing the total to 38. Fifteen states have enacted legislation to authorize limited dividend housing corporations to provide safe and sanitary housing for families of low income. A number of state supreme courts upheld the constitutionality of public housing legislation, and the U.S. Supreme Court gave it similar approval. During the course of the year nearly 50 new housing authorities were established.

## PLANNING AND ZONING

By Sept. 1, 1939, 37 states had established state planning boards and in five the Governors had set up non-statutory boards which fulfilled, in substance, the same functions.

Important planning legislation was passed in four states during the year. Arkansas established a State Land Commission with power to develop and conserve the human and soil resources of the state, to classify land use, and perform other functions with a view to better conserving the resources of the state.

In Tennessee the State Planning Board was empowered to appoint planning commissions for unincorporated communities, which would have full power to plan and zone. The Planning and Resources Board of five members consisting of the Governor, the Budget Officer and three citizens, was established in Oklahoma to administer state parks, lakes, and other recreational grounds. In Colorado the State Planning Commission can now appoint regional county and district planning commissions, in order better to resolve some



#### IV. STATE GOVERNMENT

of the interstate jurisdictional planning problems that have arisen.

In the field of zoning Colorado passed a rural zoning act, and Minnesota approved one which will be operative only in counties where there are state and Federal forests or conservation areas. A Missouri act authorizes county courts to provide for county planning and zoning commissions, and in Tennessee an enabling zoning law has been approved for counties between 159,000 and 200,000.

##### **HIGHWAY AND MOTOR VEHICLES**

Legislatures considered the usual large crop of highway and motor vehicle bills in 1939, but passed little that marks a striking change in trends. A number of states enacted reorganization bills. Alabama provided for a State Highway Director rather than a three-member commission. In Delaware the Motor Vehicle Department was transferred from the

jurisdiction of the Secretary of State to the State Highway Department, and in Minnesota the general reorganization bill placed the State Highway Department under the Committee of Administration. Oklahoma established a three-member Highway Commission to be appointed by the Governor.

In the field of finance, Iowa paved the way by legislative resolution for a constitutional amendment prohibiting the diversion of gas and motor fees from road uses. Idaho and Utah appropriated \$1,000,000 and \$800,000 respectively to cities and counties for the use of roads, and Maine permitted a \$9,000,000 bond issue for bridge and highway construction, a joint state and municipality undertaking. Montana, New Hampshire, and New Jersey provided for funds to match Federal aid in highway construction. Missouri passed a law increasing its highway patrol force by 50.

#### **NATIONAL AND INTERSTATE RELATIONS OF STATES**

BY HUBERT R. GALLAGHER

ASSISTANT DIRECTOR, COUNCIL OF STATE GOVERNMENTS

##### **DEVELOPMENT OF FEDERAL-STATE RELATIONS**

The past decade witnessed a great growth in the functions and services performed by the Federal Government. A continuing national emergency required it, and judging by election returns the public approved of it. Alarmists contend that this expansion of Federal authority in almost every field of governmental activity has been at the expense of the states and with a concomitant sacrifice of democratic self-government. These critics have not taken into consideration that, in developing this program, the states have played a most important part both as entities of the Federal Government and as operating units making possible the great Federal-State cooperative projects undertaken in the fields of relief, social security, agricultural adjustment, and public works. In carrying

forward these vital programs the states still retain their authority; democratic government remains close to the people and continues in its traditional pattern.

The great majority of these developments have taken place during the Roosevelt Administration and were in operation prior to 1939. Thus the past year saw no remarkable changes in Federal-State relationships. Agencies and departments of the Federal Government continued to cooperate closely with the states. The programs of old age assistance, aid to dependent children, aid to the blind, and unemployment compensation, sponsored by the Social Security Board; grants for highways, land-grant colleges, and forests; numerous types of cooperation maintained by the Department of Agriculture; expenditures for public health, the Works Projects Administration, and

the National Youth Administration, are but examples of this widespread cooperation between the Federal and state governments. With the exception, however, of the expansion of the National Guard as a result of the war scare, these programs represent a continuation and not an expansion of Federal-State relationships.

## INTERSTATE COOPERATION

Infinitely more tangible developments took place in the field of interstate cooperation. Throughout the year states showed increasing ability to work among themselves toward the solution of their own problems, and in fields in which the Federal Government had no, or only limited, jurisdiction. In the coordination of this work, the Council of State Governments took a leading part.

By the beginning of 1939, 37 states had Commissions on Interstate Cooperation officially designated to work through the Council of State Governments, and during the year six other states established similar agencies. The device had become a generally accepted instrument of government. Thus, for the first time, the Council was able to devote its time and energies to accomplishments rather than to organizational matters.

## INTERSTATE TRADE BARRIERS

**Growth.**—The most newsworthy as well as the most vital problem attacked by the Commissions on Interstate Cooperation was that of interstate trade barriers. During the depression the states, pressed for revenue and eager to expand their own industries to self-sufficiency, had enacted a number of tariff measures planned to achieve one or both of these ends. While on the face of the matter these laws would seem unconstitutional, they were in many instances worded as quarantine or health measures, and thus could be defended as legitimate efforts to protect the public. Sometimes, too, they were administered in such a way as to bar trade from other states, while their wording gave no inkling of this factor. For instance, a state might require that all milk sold therein be

from cows approved by state inspectors; it would then refuse to send its inspectors into other states, or to accept the reports of local officials.

**Liquor.**—The Twenty-first Amendment to the Constitution also created a definite boom in the trade barrier business. The Supreme Court held that, because of the Amendment's provision that no liquor may be sold in a state "in violation of the laws thereof," liquor trade barriers are constitutional. There followed a rapid series of discriminatory measures, retaliation, and reprisal.

**Mercantile Factors.**—One trade barrier breeds another, and each one raises the price of goods to the consumer. The net result is that the people in the state are all poorer in real money, and nobody is ahead. These latter points evaded the law-makers of the early '30s, who saw only that the state treasury was empty and reasoned therefrom that the whole state would prosper if everyone gave business to state industries and boycotted outsiders. The idea occurred to legislators in all the states at about the same time, with the result that the nation awoke suddenly to the alarming realization that the "greatest free trade area in the world" was rapidly ceasing to exist. Thus mercantilism so destructive to our early government under the Articles of Confederation, like the century plant, had bloomed again.

**Opposition Campaign.**—The Governors' Conference in September 1938, the Midwest Regional Assembly later that year, and the Fourth General Assembly, held in January, 1939, instructed the Council of State Governments to undertake a campaign against trade barriers. In April a nationwide conference on the subject was held in Chicago, and definite plans mapped out. As a result of the efforts of Commissions on Interstate Cooperation and other interested agencies in the several states, the drive to erect additional trade barriers in the 44 legislatures meeting in 1939 was stopped. In several instances existing barriers were repealed. Perhaps more important, favorable press and radio comment

## IV. STATE GOVERNMENT

has impressed the problem of interstate trade barriers upon the public mind and has thus made possible even more effective work by the cooperation commissions. A decision of the Supreme Court, *A. B. Hale, as Chairman, et al. vs. Bimco Trading, Inc. et al.* (No. 418, October 1938 Term, U. S. Supreme Court) held unconstitutional a law requiring the inspection of imported cement, and payment of an inspection fee. The statute had been upheld by the Supreme Court of Florida and declared invalid by the District Court. This decision seems likely to pave the way for a general invalidation of barriers against commodities other than liquor, but it leaves untouched that large field of "health," "safety," and "quarantine" measures which by interpretation and administration effectively prevent the free flow of commerce.

**Cooperation Commissions.**—Perhaps the most encouraging trend in interstate relations is the tendency of all states to refer interstate problems to the cooperation commissions. During the past year the states of the Eastern seaboard worked through their commissions on such varied problems as banking and securities, both marine and fresh-water fisheries, transiency and relief, crime, milk control, migration of labor, pollution and flood control, and motor vehicles. In the Midwest, conferences have been held at the request of cooperation commissions on milk and dairy problems, liquor control, conflicting taxation, pollution, fisheries, and motor vehicles. The Far Western states, in a conference held in San Francisco in October, considered migratory labor, unemployment, conservation of natural resources, and trade barriers. A Southern regional conference was planned for January, 1940, to consider questions especially vital to that area.

**Interstate Agreements.**—It is impossible within the scope of the present summary to analyze all the activities in the field of interstate cooperation. While the technique of interstate compacts has in no sense been discarded—under certain cir-

cumstances any action taken by the states must secure Congressional consent and subsequent ratification by each of the states—there seems a tendency toward the more efficient device of interstate agreement, sometimes supplemented by reciprocal legislation. A bill to provide Congressional consent for state action to preserve marine fisheries was vetoed by President Roosevelt because of structural defects; those defects have been remedied and the bill will be reintroduced in the present session. The bill would permit an agreement by Eastern seaboard states establishing an Interstate Marine Fisheries Commission to be charged with the duty of recommending and securing the enactment of essential state legislation, and granting concurrent jurisdiction to game wardens of the states concerned to enforce reciprocal legislation.

### GREAT LAKES FISHERIES

From time to time since the 1880s the states bordering on the Great Lakes have sought to do something about the impending depletion of Great Lakes fisheries. Their problem was made more difficult by the international aspects of the question, since the northern shores of several of the lakes are bordered by Canadian provinces. These efforts uniformly floundered amid discussions of treaties, joint international action, uniform legislation, interstate compacts, and interstate administrative agreements; in the meantime fishermen removed fish from the Great Lakes in alarming numbers. At the present time several species of fish are no longer plentiful enough to be caught commercially. In 1938, at the request of the Michigan Commission on Interstate Cooperation, the Council called a conference on this subject. Conferencees agreed to ask the President and Congress to establish an International Board of Inquiry for the purpose of considering an International Treaty to conserve the fisheries. The states' interests in carrying on negotiations would be safeguarded by an Advisory Committee composed of representatives of the Commissions



## NATIONAL AND INTERSTATE RELATIONS OF STATES

on Interstate Cooperation and the leaders in the industry. In spite of Canada's being at war, prospects for the early implementation of this plan seem excellent.

### POLLUTION AND FLOOD CONTROL

Cities have one necessary point in common: they have a water supply. The necessity for an adequate source of pure water groups cities and industrial areas along great rivers; frequently these same rivers are used for the disposal of sewage and industrial wastes. Not only are all cities along the rivers forced to install elaborate equipment for water purification before the water can be used, but the recreational value of the stream is virtually destroyed. Some municipalities have equipment for the treatment of sewerage before it is piped into the river, but few industrial plants are so equipped. Since 1936 the Council has been working through the Commissions on Interstate Cooperation in the Delaware River Basin in an effort to eliminate pollution of the Delaware and to secure a future water supply for the large cities there. The Interstate Commission on the Delaware River Basin, composed of members of these cooperation commissions, has devoted its full time to this work, with close cooperation from the National Resources Planning Board, and as a result many localities and some industries in that Basin have constructed treatment plants. While, during the last session of the Pennsylvania Legislature, pressure from industrial interests was strong enough to prevent the passage of anti-pollution legislation, there is every reason to believe that this opposition may be overcome before the next session. Similarly, Pennsylvania's failure to ratify an interstate compact designed to control pollution and floods on the Ohio River will delay action in the Ohio Basin until the 1941 sessions. In cooperation with the National Resources Planning Board and the United States Department of Health, arrangements have recently been

completed for a study of the problems in connection with the Potomac Basin.

### MILK SANITATION

Conferences have been held and committees are at work on the problem of raising and unifying the milk sanitary standards of the midwestern states. At present, dairy products shipped from producers in these states are frequently barred from the markets of Eastern cities ostensibly on the ground that their dairy inspection laws do not meet the sanitary requirements of the Eastern states. It is expected that if the cooperation commissions succeed in this endeavor, the health of the citizens in the Midwest will be better protected and, further, that the large Eastern cities will no longer bar Midwestern dairy products.

### MOTOR VEHICLE REGULATIONS

In the field of motor vehicles advances were made in unifying the safety codes of the states and in bringing about reciprocal agreements between states in the Midwest as well as on the Pacific Coast. These reciprocal agreements settled disputes which had occurred between these states due to conflicting motor carrier laws and regulations.

### INTERSTATE OIL COMPACT COMMISSION

During the year progress was also made by the Interstate Oil Compact Commission with the addition of new member states and the partial solution of a crisis caused by the faltering of oil price controls and quotas due to the opening of new fields. The possibility of ultimate Federal control and the problems inherent in the oil industry have not made this an easy year for the Interstate Oil Compact Commission.

### PROGRESS

All in all, 1939 was a highly productive year from the standpoint of improvement in interstate relations. There were no instances of mobilization of the National Guard or state militia to protect a state's borders



## IV. STATE GOVERNMENT

from economic attacks, or otherwise, by neighboring states, although the cigarette tax differential war between New Jersey and New York made life miserable for tax collectors, and the threats of Oklahoma's Governor Phillips against Texas and the Federal Government over the Denison Dam made interesting reading. The year-end could show countless examples where governors, legislators and state officials, working through the Council of State Governments, the Governors' Conference, and their state cooperation commissions, had bettered relations among the states and had generally made state government itself more effective.

### STATE CONSTITUTIONS, REFERENDA, AND INITIATIVES

By W. ROLLAND MADDOX

ASSISTANT PROFESSOR, UNIVERSITY OF KANSAS

#### GENERAL

Since few of the states held general elections in 1939, the year saw the submission of comparatively few questions to state-wide popular vote. Sixty-one questions were passed upon by the voters of 12 states. Fifty constitutional amendments were considered, four of them being proposed by initiative petition, two in Ohio and one each in California and Michigan. Five statutes were referred to the voters by petition, three in California, and one each in Ohio and North Dakota. Two measures, both bond issues, were referred by legislative action, one each in New Jersey and Rhode Island. Three statutes initiated by petition were voted upon in North Dakota and one in California.

Elections on these questions were scattered throughout the year. The usual November election day was used in California (five questions), Mississippi (two questions), New Jersey (one question), New York (one question), and Ohio (four questions). Michigan voters passed upon two questions at the biennial spring election on April 3. Georgia voted upon 33 questions at a general election on June 6. Other states held special elections as follows: Rhode Island, Feb. 16, (bond issue); New Jersey, June 20, (one question); Alabama and North Dakota, July 11, (five questions and four questions, respectively); Maine, Sept. 11, (bond issue); New Mexico, Sept. 16, (bond issue).

Only one of the four constitutional amendments proposed by initiative petition was approved. Amendments proposed by legislatures fared better, 43 being accepted while three were rejected. Two statutes referred by petition were adopted, three being rejected. All three statutory initiatives were defeated. A total of three bond issues was approved, while three issues were rejected.

Georgia submitted the largest number of questions to popular vote. Thirty-three constitutional amendments were placed on the ballot for the June election. Twenty-six pertained to the authorization of bond issues and tax levies in specific cities, counties and school districts. It has been found more expedient in Georgia to amend the constitution for this purpose than to meet the stringent requirements of the constitution for approval of these measures in the local units affected. Five other proposals were also entirely local in effect. Thus all but two of the Georgia amendments may be eliminated from further consideration.

#### OLD AGE ASSISTANCE MEASURES

Greater press attention was directed to old age pension measures voted on than to any others during the year. Pension plans were submitted as constitutional amendments by initiative petition in California and Ohio in the November election. One of three initiated statutes in North Dakota, submitted in July, proposed to suspend all highway con-

## STATE CONSTITUTIONS, REFERENDA, AND INITIATIVES

struction for a period of two years and to divert the funds thereby made available to the Old Age Assistance Fund. Old age assistance funds were also provided in proposals for a gross income tax and for municipal liquor stores. All these proposals were defeated at the polls.

The California proposal, a modification of that narrowly defeated in 1938, was turned down almost two to one in a total vote somewhat larger than that of the previous year. This year's plan retained the provision for the issuance of 30 \$1.00 warrants weekly to each eligible person over 50 years of age, but omitted the requirement that public employees must be paid in warrants. Other provisions incorporated the state sales and use tax acts by reference, and imposed a three per cent gross income tax. A Credit Clearings Bank was provided for to handle the warrants and act as the sole depository for all public funds with an initial capital of \$20,000,000 derived from a bond issue. Administration of the plan was vested in a named administrator until the general election of 1944, the position becoming elective by popular vote at that time. Among the post-election comments was the suggestion that the state constitution be amended to forbid resubmission, for a period of five years, of proposals which are once defeated at the polls.

The Ohio proposal, submitted for the first time, is credited with drawing the largest number of voters to the polls for an off-year election in the history of the state. Defeated nearly three to one, it carried the other three questions on the ballot down to defeat also. The Ohio plan, sponsored by Herbert S. Bigelow of Cincinnati, would have guaranteed an income of \$50 a month to all citizens of the state over sixty years of age, retired from gainful occupation as wage earners and not under conviction for crime. Married couples were guaranteed a minimum of \$40 each. The state was required to supplement income received from other sources to the guaranteed amount. In order to finance the plan, land valued at more than \$20,000 an acre was to be

taxed by a special levy of two per cent *ad valorem* in addition to all other levies, and a state income tax was provided for. Some commentators declared that these additional sources of revenue would be insufficient and that the resulting deficit would require the increase of real property taxes, thus vitiating the constitutional one per cent tax limit. Post-election comment forecast the submission of a similar plan in Ohio in 1940, while opponents favored meeting the problem by amending existing laws to raise the level of old-age assistance payments.

### RACING AND BETTING

New Jersey in June and New York in November amended the state constitutions to authorize the legislatures to legalize pari-mutuel betting on horse races, with the state deriving revenue. These states may now join the 21 others which permit and use gambling as a source of revenue. The New Jersey provision replaced a prohibition incorporated into the constitution in 1897 which ended racing in that state by forbidding gambling. The New York amendment was the culmination of a similar reaction from a constitutional prohibition of bookmaking and gambling enacted during the term of Governor Hughes. It followed the repeal of the penalties against bookmaking by the legislature in 1937. In both cases, legislative action will be necessary to fix the amount of revenue to be derived by the state, to determine the number of tracks to be permitted and to enact regulations. The New York election brought out a light vote by approximately one-fifth of those who voted in the last presidential election.

### GOVERNMENTAL STRUCTURE AND POWERS

Perhaps the most striking changes relating to governmental structure were included in the constitutional amendments adopted in Alabama. Beginning with the legislature elected in 1942, Alabama will have regular sessions biennially in place of the present quadrennial meetings. The legis-

## IV. STATE GOVERNMENT

lature will convene in May of odd numbered years for a session limited to 60 calendar days. The four-year term of senators and representatives remains unchanged, but legislative pay will be increased from \$4 per day to \$10 per day during the period when the legislature is in session. An innovation is the provision for a ten-day session in January following the election of members restricted to the organization of the houses, the canvass of the votes for state officers, the election of these officers in case of a tie, and their inauguration.

Another Alabama amendment reduces the governor's constitutional power of pardon and reprieve. The governor now has only the "power to grant reprieves and commutations to persons under sentence of death." The legislature is authorized to regulate pardons, paroles, remission of fines and forfeitures, and may permit criminal courts to suspend sentence and to order probation. The former advisory board of pardons, consisting of the Secretary of State, Attorney-General and State Auditor, was omitted from the amendment.

The voters of Ohio refused to approve an amendment proposed by the legislature to create a state board of education which in turn would appoint the director of education. The director now is appointed by the governor. They also refused to accept a referred statute making changes in the civil service laws.

North Dakota voters rejected a statute of the legislature which would have abolished the office of Grain Storage Commissioner. This statute was referred to the voters in order to force the calling of a special election on the initiated measures to divert highway funds to old-age assistance, to authorize municipal liquor stores, and to enact a gross income tax. The measure was passed unanimously by the legislature and was said not to be in controversy in the election.

### COURTS AND COURT PROCEDURE

Proposals having to do with courts were considered in three states. Michigan voters approved an initiated amendment providing for non-

partisan elections for judges. Justices of the supreme court will be nominated at conventions as heretofore. Judges of the circuit court, judges of probate, and circuit court commissioners will be nominated at non-partisan primaries. An amendment proposed by the legislature to vest in circuit court commissioners the judicial powers of justices of the peace was rejected in Michigan. By amendment to the Georgia constitution, Superior Court judges are authorized, in vacation, to hear and determine matters not requiring a jury verdict. The legislature of Alabama was given permission to dispense with the grand jury in felony cases, except those involving capital punishment, when the defendant makes known in open courts his desire to plead guilty. The constitution previously had permitted dispensing with the grand jury in misdemeanor cases.

### ELECTIONS

The adoption of non-partisan elections for the selection of judges in Michigan has been noted above. Alabama may now use voting machines in elections under regulations which the legislature is authorized to prescribe. The amendment permits the legislature to provide for the use of machines by general or local law, and for all elections, including primary elections in any local unit of the state. Ohio voters refused to approve an initiated amendment proposed by Herbert S. Bigelow of Cincinnati, sponsor of the old age pension amendment, which would have reduced the number of signatures required on initiative petitions. By the amendment, 100,000 qualified electors would have been sufficient to propose a constitutional amendment, while 50,000 could propose a statute "on any subject whatever." Statutory initiatives would have been submitted to the voters directly without first being submitted to the legislature.

### BOND ISSUES AND TAX PROPOSALS

Excluding the local bond and tax amendments previously mentioned six bond issues were placed before

the voters during the year. The California Retirement Life Payments amendment, noted above, included a bond issue of \$20,000,000 to provide capital for the Credit Clearings Bank. A Georgia amendment authorized the governor to issue highway refunding bonds to replace certificates due in 1939, 1940, and 1941. Maine, by amendment, provided for the issuance, under legislative enactment, of bonds up to an aggregate of \$45,000,000 at any one time, for highway and bridge construction. New Mexico refused to approve an amendment providing for \$1,450,000 in bonds for state institution buildings. A bond issue of \$2,250,000 was approved in Rhode Island for interest, retirement and sinking fund requirements for the fiscal year ending June 30, 1939. New Jersey voted bonds in the amount of \$21,000,000 for relief purposes. The heavy majority cast in Hudson County (Jersey City) for the bonds was sufficient to overcome the opposition of a majority of the counties in the state.

Two gross income tax proposals were defeated. The California Retirement Life Payments plan included a three per cent gross income tax as noted previously. An initiated statute in North Dakota would have imposed a tax of one-half of one per cent upon the gross incomes of producers from the sale of agricultural, animal or poultry products, and incomes derived from manufacturing and the business of contracting. All other income would have been taxed at two per cent. The proceeds were appropriated to the Old Age Assistance Fund and its administration, residual amounts to be distributed to the counties. One half of the county allotments would have been used to reduce property taxes.

#### MISCELLANEOUS PROPOSALS

A referendum in California on an act to provide for the regulation of the production of oil and gas resulted in the defeat of the act. Somewhat similar to an act defeated by popular vote in 1932, the present act was strongly supported by national officers as well as those of the state, but was defeated by heavy majorities in the oil producing areas. An initiated act to amend the California law regulating chiropractors, principally to extend the field of authorized practice, also was defeated. Two legislative acts to regulate the small loan business in California were approved.

The constitution of Alabama was amended to permit the investment of trust funds in the stock of corporations or institutions when such investments are guaranteed by the United States government or are otherwise insured as to principal. Mississippi voters approved two amendments to the mortmain provisions of the constitution. In place of the prohibition of bequests of real and personal property to charitable or religious bodies, the constitution now merely forbids a person having direct heirs so to dispose of more than one-third of his property. The holding of land so received by charitable, religious, educational or civic bodies is limited to ten years. The land and improvements are subject to taxation during that period. An initiative proposal was defeated in North Dakota, which would have authorized municipalities to operate liquor stores for the sale in bulk of beverages containing more than four per cent alcohol. Profits accruing from the business were to be distributed to the State Old Age Assistance Fund, to the counties and to the cities themselves.



## IV. STATE GOVERNMENT

### ELECTORAL LEGISLATION

BY O. DOUGLAS WEEKS

PROFESSOR, THE UNIVERSITY OF TEXAS

---

#### GENERAL

The legislative sessions of 1939 altered the election laws of 40 states. California and Minnesota enacted complete new election codes with numerous amendments. Many miscellaneous changes were made in Colorado, Maryland, Michigan, Missouri, Ohio, Oregon, and Wisconsin. Significant innovations appeared in some of these and other states.

#### NOMINATIONS

Maryland abandoned second-choice voting in nominations for state-wide elective offices; state party conventions are still to nominate candidates, but county and legislative district delegates must now vote for candidates endorsed by pluralities. Three states legislated as to presidential primaries. Arkansas authorized a preference primary when a presidential aspirant petitions the State Central Committee six months before the meeting of the National Convention of his party, although, in any event, delegates will continue to be chosen by the committee which may instruct them if no preference primary is held. West Virginia ceased requiring that national convention delegates be bound by the decision of the presidential preference primary. Oregon repealed her presidential primary law, delegates to national conventions now being chosen and instructed by state and congressional district conventions and national committeemen selected by state central committees. The dates for holding general primary elections were changed in five states: in Oregon, from May to September; in Minnesota, from June to September; in Michigan, from March to February; in North Carolina, from June to May; and in Utah, the first and second primaries are now separated by two more weeks. Georgia provided that a state senate primary shall be held only in counties whose

turn it is to nominate senators under her rotation system and that the candidates shall come only from such counties. Tennessee repealed her county unit system of nominations of Governor, U. S. Senator, and Railroad and Public Utility Commissioner. A new Ohio provision dispenses with the formality of primary nomination in political subdivisions in odd-numbered years for all offices for which only one candidate files; in such cases a certificate of nomination is issued; the same obtains for delegates to state conventions.

North Dakota adopted a "consolidated primary election ballot" but allowed no splitting of tickets. Michigan provided for the rotation of tickets on the primary ballot and for perforated lines making it easy for the voter to detach the ticket of his choice. Massachusetts, Michigan, Nebraska, and North Dakota altered their primary provisions in regard to new or minor parties or both, and Colorado and Nebraska their requirements for changes of party affiliations on the part of primary candidates. Alterations were made in Connecticut and Ohio respecting nomination petitions. Voters may now change their party affiliation for primary purposes as late as 10 days before the primary (instead of 30) in Colorado; after 23 months (instead of two years) in Illinois; and after two primary elections (instead of two years) in New Jersey. Two states provided new variations of the second or run-off primary. Arkansas restricted the first primary of 1940 to contests involving more than two candidates for an office, contests involving only two candidates to be decided in the run-off along with those between the two highest candidates in the first primary in cases where no candidate received a majority therein. Tennessee adopted the run-off primary to decide tie votes in the first primary. North Dakota for-

## ELECTORAL LEGISLATION

bade candidates defeated in a primary to run for the same office in the ensuing election. Massachusetts allowed minority parties polling for the last three biennial elections  $\frac{1}{10}$  of 1 per cent of the total ballots cast for governor in state, district, county, city, or ward to hold caucuses and conventions to nominate candidates. Nebraska required organizing conventions for new parties to be held fifty days before the primary and forbade them to adopt the names of existing parties. A few states provided for slight changes in the meeting times of state conventions and state committees. Ohio authorized the state committee to decide as between rival county committees.

### PARTY ORGANIZATION

Four states provided for equality of sexes in certain party committees. In New York it was made optional for state and county party committees and in Wyoming mandatory. Texas gave women equal representation on state executive committees, and Washington required that the chairmen and vice-chairmen of county committees must be of opposite sexes. Washington provided that precinct chairmen should be elected in the primary and should act together as the county committee. North Dakota added holdover members of the legislature to the personnel of county committees. Texas allowed officeholders to serve on the state and national committees. Vermont made primary nominees members of state conventions. Indiana required nomination of delegates to the state conventions by petition filed 30 days before the primary.

### CONDUCT OF ELECTIONS

Important changes in general election ballots were made in several states. Montana shifted from the party column to the office-block type with major party candidates appearing first in each block. Nebraska required separate blocks on the ballot for "non-political" offices and repealed the provision for instructions as to how to vote a straight party ticket. South Dakota combined the non-political and judicial and the

non-political educational ballots on one sheet of paper. Michigan provided for a "write-in" column. Wisconsin granted additional discretion to the Secretary of State to correct ballot forms. Nevada provided for placing the voting mark after the names of presidential and vice-presidential candidates, but left the names of electors on the ballot. Ohio made the central method of counting primary and election ballots optional for counties of more than 250,000. Michigan created special boards of county canvassers to be chosen by county boards of supervisors. The use of voting machines was prohibited by Oregon. New York and Indiana strengthened their requirements for the inspection and use of the voting machine. Minnesota permitted the experimental use of voting machines in actual elections and liberalized requirements as to the arrangement of names on machines. Ohio required the rotation of names by precincts on voting machines.

Tennessee created a State Board of Supervisors of Elections with power to appoint three commissioners of elections for each county. City councils and village boards in Wisconsin were permitted to require of election officials a knowledge of English and of the election laws, and such officials may be discharged for improper conduct or neglect of duties. Pennsylvania provided that the counsel of the county board of elections must remain in his office during polling hours to instruct election officials and voters as to their duties and rights. Numerous changes were made by a number of states in regard to polling hours and the laying off of precincts. Special elections to resolve tie votes were abolished in California. Wisconsin set the third Monday in May as "citizenship day" and authorized county superintendents to conduct prescribed programs for the day; Congress was also memorialized to establish a national citizenship day.

Absent voting laws were amended in many states. Michigan required absent voters to be "registered" as well as "qualified." California provided for special canvassing boards

## IV. STATE GOVERNMENT

when absentee votes in a jurisdiction shall exceed 75. Employees of the state in Ohio were not to lose their original residence. In Oregon, voters living more than 15 miles from the nearest polling place may now vote absentee. In Wisconsin absent voting for religious reasons was permitted. Minnesota extended absent voting to primaries. North Carolina enacted a new absent voting law.

### **CORRUPT PRACTICES**

Georgia extended to the primary the penal laws relating to illegal practices in general elections. A special committee with broad powers was created in Rhode Island to investigate the conduct of campaigns and elections, and the personnel and appropriation of the Attorney General's office were increased for the same purpose. Contributions or promises to pay to political committees in Massachusetts must be made in the name of the actual donor. Oregon required all associations and corporations engaged in influencing elections and spending over \$50 to file detailed financial statements as to donors and expenditures. Texas prohibited political advertising in temporary newspapers and periodicals. Maine forbade the display or circulation of political advertising material and the use of loud speakers for political purposes within 250 feet of the polls. South Dakota defined as a crime any withholding or threatening to withhold public relief for political purposes. West Virginia penalized more heavily any obstruction by employers of use of the suffrage by employees. Massachusetts increased the penalty for illegal voting, and Michigan changed the act of interfering with a recount from a misdemeanor to a felony.

### **REGISTRATION**

Requirements in Minnesota were made uniform for all jurisdictions where registration obtains. North Carolina provided for a new statewide permanent registration of voters in 1940. A unique electors' oath was

established in Idaho which requires the voter, among other things, to swear that he regards the constitutions and laws of the United States and Idaho as interpreted by the courts as the supreme law of the land. Changes elsewhere were minor, having to do with a wide variety of details in registration procedure. Texas provided for a new poll tax receipt form for aliens showing their alien status and forbade the issuance of blank poll tax receipts and exemption certificates.

### **INITIATIVE AND REFERENDUM**

Proposals for constitutional amendments embodying the short ballot will be submitted to the voters of Nebraska and West Virginia in 1940. The Nebraska proposal allows the legislature to provide for an optional form of county government in which county officers become appointive. The West Virginia proposal leaves only the Governor, State Auditor, and Attorney General to be elected and fixes their terms at four years. Nebraska legislated to require the filing of copies of initiative and referendum petitions with the Secretary of State before any signers are secured along with sworn statements setting forth the names of all persons, associations, and corporations sponsoring petitions or contributing to the expense of their printing or circulation.

### **SPECIAL AND LOCAL ACTS**

South Carolina has proposed a constitutional amendment to substitute a poll tax for "payment of all taxes" as a requirement for municipal suffrage. Taxpaying or having children in school was substituted for universal suffrage in school elections in Montana. Cities and combined cities and counties in California may not be dissolved or disincorporated by initiative and referendum for two years from the date of incorporation. Municipal referenda on the same subject may not occur oftener in Pennsylvania than once in three years.

## COUNTY AND RURAL GOVERNMENT

### COUNTY AND RURAL GOVERNMENT

BY ORREN C. HORMELL

PROFESSOR, BOWDOIN COLLEGE

#### GENERAL

Progress during 1939 toward attaining efficiency in county and local government, through consolidation, mergers, and structural changes, continued to be advocated by civic organizations, political scientists and many forward-looking editors. However, actual achievements were meagre. The entrenched strongholds of county politics and local pride are difficult to storm. Legislatures in a few states enacted laws giving promise of future reform when and if the voters of the interested units of government so will it.

#### COUNTY GOVERNMENT CHANGES IN TENNESSEE

The legislature of Tennessee led the states in enacting comprehensive laws providing for (1) Functional Consolidation, and (2) Territorial Consolidation. Under the functional consolidation laws counties and municipalities may "enter into contracts or agreements" to conduct jointly a specified service, for example: health or sanitation (Tennessee Public Acts, 1939, Chap. 222). Counties are also authorized "to enter into agreements for joint conduct or financing of the functions or services of said counties" (Chapter 223). Territorial consolidation of counties was authorized by Chap. 224 of the Public Acts of 1939. The substance of this important act was summarized by the University of Tennessee *News Letter*, November, 1939.

The usual debt obstacle to consolidation was largely removed by Chapters 225 and 226 which make possible the bonding of the debts of the newly created county with a systematic basis for payment. The law provides that debts of the absorbed county shall be paid from taxes levied on the property of said county, and also that state bonds may be used to create a fund for distribution among

consolidating counties to aid in the payment of their indebtedness.

#### GEORGIA

The legislature of Georgia (Ga. Laws 1939, No. 276, p. 261) also set up an enabling act permitting functional consolidation among selected counties and cities. Contracts are authorized between counties or between counties and cities in counties where there exists cities either in whole or in part having a population of 200,000 or more by the 1930 census. The law authorizes such counties and such cities "to contract with each other for the performance by one or more said counties or municipalities of administrative, regulatory, protective, or other functions and services, . . ."

#### CALIFORNIA

County consolidation in California continued to receive constructive attention. (See *THE AMERICAN YEAR BOOK*, 1936, p. 177). According to Dr. H. F. Scoville, Director, Los Angeles County Bureau of Administrative Research (*National Municipal Review*, Oct., 1939, pp. 708-711), the year 1939 witnessed "no basic changes in chartered organization" for counties in California. The County of Los Angeles set up by ordinance a "chief administrative officer"—presumably a forerunner of a county manager system.

Functional consolidations were reported as follows: consolidation of the county surveyor with the road department in Riverside County, the purchasing agent with the county clerk in Marin County, the highway commissioner with the county surveyor in San Bernardino County, and the county coroner with the public administrator in San Luis Obispo County. Santa Barbara County reports that the supervision of county parks has been placed under the di-



## IV. STATE GOVERNMENT

rection of the board of supervisors, with each supervisor in charge of the parks in his respective district.

Los Angeles County has undergone some major changes in county departments, wherein the labor coordinating bureau was abolished and part of its functions transferred to the civil service commission; the rehabilitation department has been discontinued and consolidated with the charities department; the department of budget and research has become the bureau of administrative research attached to the office of the county administrator.

### MONTANA AND NORTH DAKOTA

Consolidation in county offices in Montana under the constitutional amendment of 1934 continues slowly. Two or more of eight elective officers may be consolidated. Consolidation ordered by the county commissioners went into effect Jan. 1, 1939, in the counties of McCone, Musselshell, and Petroleum. In two of the counties the offices of assessor, clerk and recorder were consolidated, and in a third the offices of assessor and superintendent of schools were combined, and the officers of public administrator and coroner were consolidated with that of sheriff.

The county reform campaign sponsored by the North Dakota Taxpayers Association (see *THE AMERICAN YEAR BOOK*, 1938, p. 175) succeeded in securing the inauguration of "an optional county government" amendment to the state constitution. The state legislature is to be authorized to provide optional forms of county government which may be adopted by interested counties upon the favorable vote of 55 per cent of those voting on the adoption.

### KENTUCKY AND OHIO

Kentucky is experimenting with a type of functional consolidation or cooperation in the combination of the health department of the City of Lexington with that of Fayette County. The combination was made with the approval of the health commission of Kentucky. The city, the

county, and the school districts share in raising the health budget.

County Reform in Ohio continued to suffer temporary defeat. Two bills sponsored by reform leagues and intended to make effective the county home rule amendment (see *THE AMERICAN YEAR BOOK*, 1938, p. 176) were defeated in the legislature. The bills would have made possible the adoption by local referendum of either an elective chief executive or an appointed county manager. According to *Greater Cleveland*, March 30, 1939, "the chief opposition to both bills came from the county officials . . . over the state and the Suburban Mayors' Association of Cuyahoga County." The Citizens League of Cleveland has continued its campaign of education by presenting a clear analysis of the draft of a city-county charter prepared by the League's committee. The charter provides for a "unified and centralized city-county government with optional boroughs."

### PENNSYLVANIA

City-County consolidation for Philadelphia was again proposed in a constitutional amendment introduced in the Pennsylvania Senate May 2 and unanimously passed by that body on May 12. It never saw the light of day after being referred to the House Committee on Constitutional Amendments. (See *THE AMERICAN YEAR BOOK*, 1938, p. 176). A proposed constitutional amendment can be presented to the voters only once in five years, and then only after it has been passed in identical form by two legislatures; hence the solution of the Philadelphia city-county consolidation problem now appears removed beyond 1942.

### NEW YORK

Nassau County, New York, demonstrated some of the possible advantages accruing from the 1936 reform charter (see *THE AMERICAN YEAR BOOK*, 1937, p. 179) by completing a County Land Map "based upon record ownership of property, verified by title searches and reconciled by land surveys and aerial photography."

## COUNTY AND RURAL GOVERNMENT

(*American City*, Vol. LIX, No. 10, p. 518). This new map provides a most effective tax map for the several assessing units in the county.

Westchester County, New York, began operation Jan. 1st, 1939, under a new charter (see *THE AMERICAN YEAR BOOK*, 1937, p. 179) which provides for a county executive having broad administrative and appointive powers and considerable fiscal responsibility. Paul W. Wager reports in the *National Municipal Review*, November, 1939, p. 806: County Executive Bleakley completed the task of reorganization within the first nine months of the year. Plans for future improvement sponsored by County Executive Bleakley are contained in the provision "for future referenda on (a) reduction of the size of the Board of Supervisors, (b) creation of a County Department of Uniform Tax Assessment, and (c) establishment of a County Debt Commission to regulate borrowing."

The reorganization of county offices in New York City was first attempted through bills introduced in the Council by Vice-Chairman Cashmore. The bills proposed the elimination of the offices of register and commissioner of records and the transfer of their functions to the county clerk's office; also that of the elective sheriff whose functions were to be transferred to an appointed marshal in each county. The City Council refused passage to the proposed measures. The second attempt to carry through the county reorganization plan was embodied in a "county reorganization referendum petition" which was voided by court action on the ground of "unsubstantiated signatures."

Onondaga County, New York (Syracuse), voted Nov. 7, 1939 on a new county charter, providing for a county manager, six department heads to be appointed by the manager, and a ten-member county board of supervisors to be elected, five from Syracuse and five from the country towns by proportional representation. The result of the vote was 22,863 in favor and 46,862 against adoption.

### NEBRASKA

The Nebraska legislature in its 1939 session inaugurated a constitutional amendment to be voted on in 1940 which, if accepted, will permit counties to change their form of government. The movement was sponsored by the Association of Omaha Taxpayers which is advocating a county manager plan for Douglas County.

### MARYLAND

Maryland fell into step with the more advanced states by enacting a law (Maryland Laws 1939, Chap. 369) abolishing the traditional office of county coroner and substituting a medical examiner under state supervision. A Department of Postmortem Examiners was created, headed by a commission of five *ex-officio* members. The commission appoints three medical examiners to head the technical work of the department and supervise the work of the county medical examiners, who in turn are appointed by the commission from a list in each county submitted by the medical societies of the county. The clerks and employees of each office are placed under the merit system. County medical examiners are required to file all reports and statistics with the central state office.

### CENTRALIZATION TRENDS

State control in Alabama over county fiscal affairs was strengthened through the passing by the legislature of a Department of Finance Act, which provides that each county board shall submit to the Division of Local Finance in the State Department of Finance (1) a certified copy of its annual budget, and (2) an annual statement of its financial condition. Furthermore the State Division of Local Finance may require reporting of all county purchases of \$100 or more in amount, and permit counties to make purchases through the state purchasing department. To the above mentioned division is transferred from the state comptroller the duty of prescribing uniform county systems of accounting and of making a post audit of county accounts. The Division is furthermore given power

#### IV. STATE GOVERNMENT

to protect bondholders against default in principal or interest by county governments. (See *National Municipal Review*, July, 1939, p. 537.)

Clearly contrary to the general trend of weakening township authority in the interest of county or state centralization were two laws passed by the Pennsylvania legislature in 1939 by which "authority for the administration of Pennsylvania local roads is being returned to second-class townships."

##### COUNTY FINANCE

The trend in state administration of financially distressed units of local government reached a New Hampshire county through a legislative act providing for a fiscal agent "to administer and control the finances of Coos County." Such fiscal agent, appointed by the governor and council, is given substantially all the fiscal powers vested by state law in the county commissioners. Georgia counties suffer especially because of the heavy losses in tax revenue occasioned by homestead and personal property exemption from the tax levy.

North Dakota enacted a law (North Dakota, Laws 1939, Chap. 122) enabling counties having a population of less than 4,000 to disorganize their present county government and become attached to an adjoining organized county designated by the governor.

The Georgia County Budget Act (Georgia Laws 1939, No. 194) was intended to stabilize financial affairs of Georgia counties. The act, after setting up articles relating to procedure, provided that anticipated expenditures must not exceed anticipated revenue (Sec. 9). It also provided for an annual reduction of one per cent per year "until at the end of four years said authority shall not be authorized to anticipate the income in any sum in excess of 95% of the normal revenue actually collected during the preceding year."

Financial distress of Georgia counties, however, was materially increased, 1939, by the failure of the legislature to provide sufficient revenue to meet the appropriations. A

large portion of the available state money was spent by June 30; therefore the task of financing schools, and in part welfare and highways, was thrown back on counties and cities.

According to the *St. Louis Post-Dispatch* (see *Current History*, Sept. 1939, p. 39) the state auditor reports that "fifteen Missouri counties are already bankrupt, faced with the alternative of repudiating their obligations or consolidating with other counties. . . . This condition has come about in spite of a revolutionary shifting of local expenses on to State and Federal government." He further reports that since 1932 some 40 per cent of the total cost of operating schools has been shifted from county government to the state.

##### COUNTY AND RURAL PLANNING AND ZONING

The Tennessee State Planning Commission has created the "Great Smoky Mountains Regional Planning Commission" upon the petition of citizens of the four Tennessee counties of that Region. The commission is financed jointly by the interested county governments, the Tennessee Planning Commission, and interested private individuals. The initial work of the commission is a study of the location and development of highways, town planning for the municipalities involved, recreational projects, stream pollution, and zoning for highway protection and preservation of scenic areas. (*National Municipal Review*, Sept. 1939, p. 661.)

Special acts 1939 for Hamilton and Davidson counties, Tennessee, authorized zoning in their unincorporated areas. The zoning plan is to be prepared by the regional planning commission.

Georgia enacted a county zoning law (Georgia Laws 1939, No. 281), limited to the population range of 75,000 to 100,000, which authorized county commissioners "to pass zoning and planning laws whereby such county or counties may be zoned or districted for various uses." A special building and zoning enabling act No. 283 was passed in favor of all



## COUNTY AND RURAL GOVERNMENT

counties having a population of not less than 72,500 and not more than 73,500 by the 1930 census.

The County Planning Commission of Bergen County, New Jersey (Hackensack, N.J.) has published the following noteworthy contributions to planning and zoning: (1) land subdivisions Bergen County, March, 1939; (2) passenger transportation in Bergen County (Transit Survey), June, 1939; (3) water supply and sanitation in Bergen County (Sewer Survey) October, 1939.

The U. S. Bureau of Agricultural Economics, assisted by the TVA, the Tennessee State Planning Commission, and the Hamilton County Regional Planning Commission, has published a proposed land use map of Hamilton County, Tennessee, accompanied by a discussion of zoning for rational land use in rural counties in general.

The benefits accruing from county zoning in rural Michigan were summed up by Stanley Williams, Executive Secretary, Marquette (Mich.) County Planning Committee (*Mich. Municipal Review*, October, 1939, p. 126) as follows: (1) lower governmental costs, (2) more efficient government service, (3) protection of rural investments, (4) concentration of rural settlements, (5) improving the social and economic status of the county, (6) orderly development of and increased valuation in the county, (7) exploitation of uniformed land users eliminated.

### EXPANSION OF COUNTY SERVICES

The most noteworthy expansion of county functions and services during 1939 appears to be in the field of electrical distribution. Two Tennessee counties, Weakley and Carroll, according to L. E. Abbott of the TVA, "were the first counties to contract with the TVA for the purchase and resale of power." It is significant to note that the county distribution system is financed in part by revenue bonds, that the TVA exercises advisory functions over the distribution of electricity, and that certain payments in lieu of taxes are made by

the county to other affected units of government within the county. This new service was undertaken by the Tennessee counties under the authority of the Tennessee Municipal Electric Plant Act of 1935 (*National Municipal Review*, February, 1939, p. 169).

### RESEARCH AND REFORM IN COUNTY AND LOCAL GOVERNMENT

The National Municipal League continues to be the outstanding national organization championing the cause of reform in county and local government. The February 1939 number of the *National Municipal Review* was entirely devoted to county government. This number contains an excellent bibliography. Each number of the *Review* carries notes on county government collected and expertly edited by Prof. Paul W. Wager.

The Virginia Commission on County Government, created by law in 1930, is cooperating with a committee of 12 members of the League of Virginia Counties on studies relating to "optional form of county government which may be more acceptable to the 97 counties . . . operating under the old form"; to machinery for the regional control of state-aid functions of county government; and to devices for uniform accounting and reporting.

The League of Women Voters is exercising an ever increasing force in favor of county reform. The Louisville, Ky. League in May, 1939 resolved in favor of consolidating the City of Louisville and Jefferson County.

A noteworthy study of the Assessment of Real Property in Kentucky Counties was made by the Bureau of Business Research of Kentucky University and published by the Department of Revenue of the Commonwealth of Kentucky.

*Editorial Research Reports* devoted its entire number (No. 8, February 24, 1939) to the Reorganization of County Government.

A Bureau of Administrative Research has been set up by the Board of Supervisors of Los Angeles County



#### IV. STATE GOVERNMENT

upon recommendation of the chief administrative officer.

The Urbanism Committee of the National Resources Committee published, 1939, two volumes on urban government which contain valuable suggestions relative to consolidation of local authorities.

Prominent among the many civic organizations contributing constructively to the study of county problems are the Citizens League of Cleveland, the Civic Research Institute of Kansas City, and the Bureau of Municipal Research of Philadelphia.

#### PERIODICAL PUBLICATIONS

---

##### *State Government*

American Legislators' Association,  
Drexel Ave. and 58th. Street,  
Chicago.

##### *National County*

American County Association,  
Hotel La Salle, Chicago.

##### *Public Works*

310 East 41st. Street, New York  
City.

#### COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

---

AMERICAN LEGISLATORS ASSN., Drexel  
Ave. and 58th St., Chicago, Ill.

CIVIL SERVICE FORUM, 2 Lafayette St.,  
New York City.

NATIONAL ASSN. FOR CONSTITUTIONAL  
GOVERNMENT, 716 Colorado Bldg.,  
Washington, D.C.

NATIONAL CIVIL SERVICE REFORM  
LEAGUE, 521 Fifth Ave., New York  
City.

NATIONAL MUNICIPAL LEAGUE, 309 E.  
34th St., New York City.

THE COUNCIL OF STATE GOVERNMENTS,  
850 E. 58th St., Chicago, Ill.

## DIVISION V

### MUNICIPAL GOVERNMENT

#### NEW YORK CITY AFFAIRS

BY WALLACE S. SAYRE

CIVIL SERVICE COMMISSIONER, NEW YORK CITY

##### ADMINISTRATION CONFLICT WITH THE COURTS

The year 1939, the sixth year of the LaGuardia administration, was primarily one of continued administrative integration. There were no major changes in administrative organization or personnel, indicating administrative stabilization in the operation of the LaGuardia thesis of non-political municipal government. The most complex administrative problem emerging during the year was the necessity for a levelling-off of expenditures to balance with contracting revenues. This administrative problem was made the more perplexing by continued reversals in the field of fiscal policies suffered by the LaGuardia administration in the courts which, throughout 1939, interpreted local and state statutes in a manner which imposed additional budget costs upon the city. The administration was thus drawn into a new era of conflict between municipal administration and the courts. Reversals in fiscal policies at the hands of the courts were accompanied by a series of reversals in the civil service field where the Civil Service Commission was frequently limited in its operations by unfriendly judicial decisions; in the field of license administration; and in the wider area of employee salaries and rights.

##### POLITICAL REVERSES

In the political field, 1939 saw two

major reversals. Efforts to reform county government were repulsed in the state legislature, in the city council, and in the courts. The most serious effort, a petition to submit the question of county government reform to the voters as a referendum item at the November election, was defeated on technical grounds when Tammany forces were able to have the petition thrown out by court action. In the struggle to gain control of the city council in the 1939 election, the Fusion forces were met by the widespread indifference of off-year elections, with the result that the council now reflects a 14-to-7 triumph of the Democratic organizations.

Despite these two major perplexities, 1939 was a fruitful year for the administration. The World's Fair was to a large degree a LaGuardia administrative accomplishment, and the New York City exhibit at the Fair marked a high point in effective popular education concerning governmental processes. The year also saw the completion and inaugural operations of LaGuardia Airport, an unusual administrative achievement, hardly overshadowed by any other public works enterprise in the city. Finally, 1939 saw unusual progress through the tangle of preliminaries to transit unification, a problem of unparalleled complexity for which substantial solution had been found as the year ended.

## V. MUNICIPAL GOVERNMENT

### FINANCES

Though harassed by stabilizing revenues, the city continued to enjoy the benefits of sound fiscal operations. The comptroller reported four major achievements at the end of 1939: (1) reduction in interest paid on the city's short-term securities, of which \$390,650,000 were sold at an average interest rate of about 0.35 per cent; (2) a reduction of over \$40,000,000 in the total of unredeemed short-term obligations as compared with 1938; (3) the adoption of a policy to increase the city's borrowing margin by \$10,000,000 a year; (4) the successful investigation of emergency tax frauds and the punishment of the offenders.

The city treasurer, heading the newly organized Department of Finance, reported the following comparative fiscal statistics for the city, showing a continued sound fiscal administration.

### TAX LEVIES AND COLLECTIONS

	1937	1938	1939
Assessed valuation.....	\$16,599,695,194.00	\$16,650,297,794.00	\$16,640,632,939.00
Real estate tax levy.....	460,246,375.76	490,675,929.54	489,057,344.18
Current tax collections.....	410,096,992.97	439,759,327.08	444,444,750.72
Arrears tax collections.....	45,178,175.08	38,700,263.44	50,784,760.47
City's share of state taxes.....	40,531,432.58	39,097,567.41	35,580,656.00
Miscellaneous city revenues.....	72,804,925.32	72,759,999.35	76,222,802.00
Emergency tax collections.....	71,761,738.71	70,511,527.84	81,991,981.41
Certificates outstanding against taxes.....	63,519,000.00	66,429,000.00	67,473,000.00
Uncollected taxes pledged.....	164,613,286.00	171,987,713.00	369,696,695.00

These comparisons are qualified by the important fact that the new charter changed the beginning of the fiscal year from Jan. 1 to July 1, and consequently the above statistics for 1939 reflect the combination of a short fiscal year Jan. 1, 1939 to July 1, 1939, and the first half of the new fiscal year July 1, 1939 to Dec. 31, 1939.

### CITY PLANNING

The City Planning Commission finished its second year Dec. 31, 1939. Its principal administrative work continued to be the analysis of items referred by the Board of Estimate, but substantial progress was made in basic studies necessary for the development of a Master Plan. In addition, the Commission and the Department considered such broader problems associated with the Master Plan as a thorough-going revision of the 1916 Building Zone Resolution, the development of an integrated city-wide system of express highways

and parkways, statistical techniques for the determination of costs and services required of the municipal government, and preliminary drafts of uniform subdivision regulations for the city of New York. The Commission also prepared its first capital program, that for the years 1941-1945. This program for all permanent improvements, other than those financed through assessable funds, was the first such program ever to be developed for the city. The program detailed, by years, the specific projects which it recommended for construction, and will afford a framework for realistic consideration of the city's future capital needs that has never before been available. The Commission cooperated closely with the New York City Housing Authority in its studies of housing sites for such projects as the Vladeck Houses and the East River Houses. As a portion of its eventual

land use master plan, the Commission adopted a citywide plan indicating sections containing areas for clearance, replanning, and low-rent housing.

### CITY PURCHASING

The year 1939 rounded out six years of progress in centralized purchasing. The year also saw one of the severest tests of the Department of Purchase. The war in Europe disrupted trade in this country. The first news of hostilities created a sort of panic in buying, many purchasing agencies seeking to cover their requirements in anticipation of a rise in prices. The

Department of Purchase remained almost totally unaffected by these events. Its system of requirement contracts, coupled with the development of the stores revolving fund and the reorganization of storehouses, prepared it for shocks such as that of September 1939. Long-term planning and the preparation of anticipatory contracts gave the necessary price protection, which in most instances covered the entire year and in many cases extended many months into 1940.

Economies to the city as a whole were effected in three major directions: first, there was the grouping of requirements which resulted in bulk purchasing; second, savings accrued by prevention of purchases which were found unnecessary; third, and perhaps most important, refinement in methods of purchasing, a broad problem which involved standardization of quality, manner of delivery, and timing of purchases.

#### LEGAL

The Corporation Council reported numerous major accomplishments for 1939. Land was acquired for three housing projects—Jamaica Housing, spreading over approximately nine acres; East River Housing, three city blocks; Corlears Hook Housing, six city blocks. The three projects will house approximately 3,700 families, with a total land cost of \$3,425,000. For the New York City Tunnel Authority, land valued at \$2,500,000 was obtained for approaches and plaza to the 38th street tunnel. Title was acquired to one more link in the East River Drive which will be a belt line about Manhattan. This necessary land was condemned from Grand Street to Montgomery Street along the East River, about a mile. Contracts for unification were concluded with the B.M.T. and I.R.T., marking the end of years of negotiation and discussion. The purchase price was approximately \$326,000,000. The largest single suit against the city decided during the year was that brought by the Gerritsen Basin Development Corporation for \$9,000,000 for waterfront property and land under water

in and adjacent to Jamaica Bay. The suit was based on titles running back to Dutch patents. A decision was rendered in favor of the city and affirmed by the Appellate Division of the Second Department.

#### PERSONNEL

The Civil Service Commission reported for 1939 the maximum extension of the merit system in the United States with an increase of the competitive class to 108,000 of the city's 120,000 employees. The exempt class has been reduced to 500, the non-competitive class to 5,000 hospital nurses, and the labor class positions to approximately 7,000. These figures represent by far the lowest ratios of any personnel jurisdiction in the United States.

The Commission also continued its modernization of personnel administration for New York City by the administration of a high level Patrolman test which attracted nationwide attention; by the establishment of a Bureau of Training under the provisions of the George-Deen Act, for the encouragement of in-service training among New York City employees (more than 5,000 New York City employees participated in in-service training courses during 1939); by the complete codification and revision of the rules of the Commission; and by the establishment of a Bureau of Research which will be engaged in the analysis and construction of modern civil service tests at a high level of scientific accuracy and validity. The Commission also during 1939 improved its program of positive recruitment by the development of a monthly *Civil Service Bulletin*, a printed publication containing all important current civil service information and which reached in 1939 a monthly circulation in excess of 30,000.

The Commission also reported steady technical improvement in examinations of all types and at all levels. The development of competitive practical tests for skilled trades positions was particularly important during the year, and the Commission's early success with this new type of testing was demonstrated by the



## V. MUNICIPAL GOVERNMENT

widespread interest among other personnel agencies in the Commission's program and techniques. Bronx; and still other plants were in the progress of design.

### PUBLIC WORKS

The Department of Public Works, organized under the new charter on Jan. 1, 1938, has been developed into the central engineering, architectural, designing, and construction arm of the Mayor's departments. It has charge of the design, construction, and operation of bridges, public buildings, sewage disposal works, and intercepting sewers, currently handling some 450 active construction contracts. During 1939 the Department also developed its maintenance activities to include the 48 bridges in the city and the 67 municipal buildings, which contain about 6,000,000 square feet in floor area. In addition to the completion of the new Meeker Avenue Bridge over Newtown Creek and the northerly unit of the bridge over Flushing River on the line of Northern Boulevard, the Dutch Kills Bridge of the new highway approach to the Queens Midtown Tunnel was made ready for award of contracts.

Important new buildings under construction included the Criminal Courts Building and Jail, Manhattan; Domestic Relations Court, Manhattan; Lower East Side and Upper West Side Health and Teaching Centers, Manhattan; Fulton Fish Market, Unit No. 1, Manhattan; additions to the Kings County Hospital, Brooklyn; Bellevue Hospital, Manhattan; Tuberculosis Hospital, Queens; Brooklyn Central Library; and Hunter College, Manhattan.

Continued progress was made in the program for treating the sewage of the city. New plants placed in operation during the year, supplementing the 11 existing works, included those on Tallman's Island and at the Bowery Bay, in the borough of Queens, as well as an extension to the Bronx Intercepting Sewer tributary to the Ward's Island Plant. Plants under construction include those at Jamaica, Queens; an extension to the Coney Island Plant, Brooklyn; the completion of the Bowery Bay Plant, Queens, and that on Hart's Island,

### PUBLIC RELIEF

During 1939 the Department of Welfare and the Civil Service Commission almost completed the transfer of the staff administering home relief to the competitive civil service. At the end of 1938, 4,295 jobs or 44 per cent of the home relief positions were under civil service; at the end of 1939, 8,198 or 83.1 per cent had civil service status. As soon as litigation preventing the Department from making appointments from existing lists is settled, the Department will complete the civil service transfer. During 1938 the Department completed the process of integrating the Emergency Relief Bureau and the Department of Welfare which had begun on Jan. 1, 1938 with the transfer of the emergency relief functions to the permanent Department of Welfare. As a result of this integration, the total staff was reduced by 1,216 persons or 11 per cent, and approximately \$2,000,000 annually is being saved in payroll costs. The Department of Welfare, at the end of the year, was providing aid to the following categories:

Type of Case	Caseload at End of 1939
Regular home relief.....	131,165
Non-settled home relief.....	3,868
Veteran home relief.....	9,580
Homeless care.....	9,267
Old age assistance.....	50,929
Blind assistance.....	1,491
Children's division.....	22,250
Total.....	228,550

During 1939, the Department of Welfare spent \$135,103,535. This cost was distributed as follows: \$83,322,340 provided from city funds; \$44,152,540 provided by the state; while \$7,628,655 represented Federal Government contributions under the Social Security Act.

### HEALTH

Health Commissioner Rice reported that New York City enjoyed very good health during 1939 and that several new records were achieved in

## NEW YORK CITY AFFAIRS

the major preventable diseases. The infant and maternal mortality rates were the lowest ever recorded in the city. New low records were also attained in diphtheria, pneumonia, tuberculosis, typhoid fever, homicides, and fatal automobile accidents.

Notwithstanding the 3,000,000 visitors to the World's Fair, not a single outbreak of communicable disease or food poisoning occurred at the Fair. This is ascribed to the expert medical and sanitary supervision organized by the Fair and to the wholehearted cooperation with the Department of Health.

By means of x-ray surveys of large groups of the population, many unrecognized cases of tuberculosis are being brought under supervision and treatment. During 1939 more than 75,000 apparently healthy persons were thus examined and 2½ per cent of these showed significant tuberculosis lesions.

The campaign against syphilis and gonorrhea found gratifying popular support. The Health Department's diagnosing laboratory made over 600,000 Wassermann blood tests during the year, an increase of 100,000 over 1938. Unsuspected cases of syphilis are now being placed under proper treatment as a result of the law requiring pre-marital blood tests, and the requirement of blood tests of expectant mothers.

With the active support of Mayor LaGuardia, the Health Department's building program was successfully continued. During 1939 the new health centers for the Lower East Side and for Washington Heights were occupied. Both of these are Teaching and Training Centers operated in conjunction with university medical schools. The health centers of the Tremont, Corona, and Fort Greene districts were well advanced in construction. The granting of funds for the Jamaica Health Center and Borough Office makes the 15th new district health center building to be undertaken in the Health Department's program. During the year, five child health stations were completed and opened, making a total of

nine new stations built during the last two years.

### HOSPITALS

During 1939 the Hospital Department opened the 1,600-bed Welfare Hospital for Chronic Diseases, inaugurated a novel Convalescent Day Camp on Welfare Island, occupied a new 250-bed pavilion for tuberculous children at Sea View Hospital, Staten Island, completed a Consolidated Dispensary to serve three Welfare Island Hospitals, and began the construction of an Administrative Building and staff house for Bellevue Hospital, and a 500-bed tuberculosis hospital in Queens Borough.

### HOUSING

The New York City Housing Authority during 1939 continued operation of First Houses (122 apartments), Harlem River Houses (574 apartments), and Williamsburg Houses (1,622 apartments). Its construction program included the completion of construction of Red Hook Houses (2,545 apartments) into which the first tenants moved on June 30, and the construction of Queensbridge Houses (3,149 apartments) with 1,868 apartments completed at the end of the year. Construction of Vladeck Houses (1,531 apartments), Vladeck City Houses (240 apartments), East River Houses (1,170 apartments), and South Jamaica Houses (448 apartments) also began during the year. Late in 1939, two further projects were approved—Bedford Stuyvesant (1,356 apartments) and East Bronx (412 apartments). Construction has not as yet been started on these projects, but it is anticipated that the first units will be ready for occupancy on April 15, 1941 and Oct. 15, 1940 respectively. The Authority also studied many other sites for slum clearance and low-rent housing construction. An application has been filed with the State Superintendent of Housing for approval of a development in the Navy Yard district of Brooklyn (3,328 apartments).

The Authority received over 110,000 applications for apartments in the new projects, completed the job of

## V. MUNICIPAL GOVERNMENT

selecting the families assigned apartments at Red Hook and Queensbridge Houses, and began selection for the new developments.

The Department of Housing and Buildings reported continued progress in its program of administrative reorganization. The new charter in 1938 provided that the five borough departments of buildings and the tenement house department should be consolidated in a new citywide Department of Housing and Buildings. Substantial progress in this consolidation was made in 1938, and the task was virtually completed in 1939. The completed consolidation has resulted in administrative integration of all the activities concerned with housing in each borough, under the control of a branch office headed by a Borough Superintendent of Buildings, one of the highest competitive positions in the city services. Examinations were conducted for these positions during 1939 and appointments were made from the widely approved resulting eligible list. For the first time in the long history of the city's concern with private building activities and housing conditions, the city has a centralized, modernized, and effective administrative organization.

The new charter and the new building code, together with several recent state statutes, conferred wider authority upon this Department, and these added responsibilities are being discharged much more efficiently under the centralized administrative organization.

### PARKS

The Department of Parks reported during 1939 a continued expansion of park facilities. Twenty-five new playgrounds were added to the recreational facilities during the year, bringing the total to 403 playgrounds. Five new outdoor swimming pools were also added to the recreational facilities of the Department. One of the most ambitious new playground parks was completed in 1939 in connection with the Red Hook Housing development. The construction of arterial parkways, with the erection of the

Cross Bay Bridge providing a new entrance to the Rockaway Beach improvements, was also completed during 1939; the Circumferential Parkway system was brought nearer to completion by the opening of the Bronx-Whitestone Bridge which rivals the Triborough and George Washington bridges in architectural beauty. Basic improvements in Flushing Meadow were completed in time for the 1939 opening of the World's Fair, while the East River Park and St. Mary's Park in the Bronx were also rehabilitated.

### DEPARTMENT OF CORRECTION

The Department of Correction during 1939 continued the development of the physical plant and a progressive prison program at the Rikers Island Penitentiary. Plans were formulated for the construction of additional housing facilities for inmates in order to make room in the industrial buildings for the formation of the prison industries. Plans were also prepared for reclaiming a large tract of dump land to be used as a farm. The chief purpose of this development is to find constructive work for the inmates which will eliminate the evil influences of idleness, and contribute in some measure to reducing the cost of operation of the Penitentiary.

Substantial progress was made during the year on the construction of a new prison to replace the old "Tombs." The educational and recreational facilities of the New York City Reformatory were expanded and improved as a measure towards bringing this institution up to modern standards.

### PUBLIC SAFETY

The year saw the administrative stabilization of the career service principle in the Police Department with the reappointment of the Police Commissioner by the Mayor to a new five-year term, and his redesignation of six deputy commissioners, four of whom have risen from the ranks of the Department. The outstanding police problems of the year surrounded the opening and continu-

## CITY POLITICS

ation of the World's Fair. The traffic division of the Department handled a multiplied traffic load satisfactorily and the whole Department met the two great emergencies of opening day and the visit of the English King and Queen with creditable efficiency. Despite the doubled population of the city, on many occasions during the months of the Fair, the Department policed the city so well that the departmental statistics reflect neither higher traffic fatalities or accidents, nor any increase in crime due to the great increase in population.

The Department opened in 1939 its new annex building, with added facilities for the technical research laboratory and the Police Academy. The motorized patrol of the Department was enlarged, and experiments in two-way radio communication were considerably advanced.

The Fire Department completed the establishment of the Three-Platoon System, bringing the total personnel to 10,822, an increase of 4,020 over the number employed under the Two-Platoon schedule. The Department continued its expansion of two-way radio facilities. The educational program instituted by Fire Commissioner John J. McElligott was

increased, and, among other services, specially trained men addressed groups of citizens on fire prevention. At the World's Fair, a unit of probationary men under the direction of an officer presented a "live" exhibit of the training of a fireman in the New York City Building. The fire loss for 1939 was \$8,600,544; the per capita loss, \$1.14.

### TRANSPORTATION

Mayor LaGuardia's program for unification of all transit systems, together with the completion and opening of the World's Fair Railroad, absorbed the major attention of the Board of Transportation in 1939. The Board continued to prosecute the work of constructing the Sixth Avenue Subway which will be ready for service late in 1940. The Board made progress with the construction of the Fulton Street extension in Brooklyn and opened a new station on the Queens line at 23rd Street-Ely Avenue, Long Island City.

During the calendar year of 1939, the lines of the Independent Subway System carried 403,373,033 passengers and the World's Fair Railroad 7,066,966. The railroad continued to maintain its average of 99.91 per cent "on time" record.

## CITY POLITICS

By HOWARD P. JONES

SECRETARY, NATIONAL MUNICIPAL LEAGUE

### MUNICIPAL PROSECUTIONS

**New York.**—Muckrakers, prosecuting attorneys, and good-government groups combined forces throughout the United States in 1939 to make it the most active year in the modern municipal renaissance. Biggest headlines went to New York prosecutor Thomas E. Dewey's conviction of Tammany leader James J. Hines. Over in Brooklyn special prosecutor John Harlan Amen worked to clean up the judicial system, and reported to Governor Lehman that a wholesale renovation was the answer.

**Kansas City.**—Then came Kansas City's rout of its longtime feudal lord of politics, Tom Pendergast. At the year-end Kansas City citizens were still rubbing their eyes in astonishment at the collapse of a political leader who had become almost an accepted institution. Good government forces of the city are marshalling their strength in an effort to take over remnants of the creaky machine.

**Newark, N. J.,** passed through a long trial of high city officials including the mayor, which ended in acquittal. Meanwhile a Supreme Court Justice heard the cause of the Newark



## V. MUNICIPAL GOVERNMENT

Citizens Union and its non-partisan efforts for charter revision.

**Waterbury, Conn.**, convicted its mayor and several other high city officials on serious counts.

**Philadelphia** tried and acquitted its Mayor Wilson and a number of other city officials. Court house dockets throughout the country were crowded with the names of municipal officials whose activities will come under legal scrutiny in 1940.

### MUCKRAKING ACTIVITIES

No less active were the muckrakers, in fullest flower since the legendary exploits of Lincoln Steffens. Columnist Westbrook Pegler picked Chicago and Kansas City as his pet peeves. Other national and local columnists delved into municipal politics. National magazines in both the big-circulation and selected market classes covered local politics as never before.

### CHARTER PROJECTS

**Newark, N. J.**—Swinging into action behind these militant crusaders of the law and the pen came citizens' organizations in cities the country over. In Newark, N. J., the "grass roots" Citizens Union battled the city hall for acceptance of petitions forcing a referendum on the city manager plan. The Union carried on its house-to-house educational campaign among Newark voters in every economic, social, and religious group in the expectation of a vote on a new charter in 1940.

**Illinois.**—Tired of the state legislature's refusal to give Chicago and other cities their freedom to write new charters, citizens started a petition movement to force the legislature's hand. Some 400,000 signatures will be required.

**Massachusetts.**—From Massachusetts, where some cities still operate under the antiquated two-house legislatures, came rumblings of a dozen or more campaigns to adopt Plan E, one of the optional forms of local government provided by the state. It includes the council-manager plan and proportional representation.

**Indiana.**—Governor M. Clifford

Townsend of Indiana appointed a committee to work out the best method for giving Hoosier cities a chance to change their charters in favor of manager government. And a statewide movement promises to develop.

### TRENDS IN LOCAL AFFAIRS

The spotty pattern of off-year elections pointed a trend toward conservatism in local affairs although the record was by no means clear. San Francisco re-elected Mayor Angelo Rossi over a new Deal Congressman who had Harry Bridges-CIO support. But Detroit elected Mayor Edward Jeffries with CIO backing. Republicans were happy over victories in Pennsylvania and New Jersey.

Boss Edward Crump of Memphis put himself in the Mayor's office long enough to turn the job over to a hand-picked henchman. Bridgeport, Conn. retained its Socialist Mayor Jasper McLevy. Reading, Penn. dropped its Socialist Mayor John Henry Stump.

San Antonio, Tex. elected reform Mayor Maury Maverick, former member of Congress. He fought off his opponents in a trial in which he was accused of illegally paying the poll taxes of voters, and was acquitted. Meanwhile, he carried on with his administration, indicating he would keep his campaign pledge for charter revision, part of his program to put his city on a new governmental basis.

In New York City the all-but-starved Tammany Tiger tasted meat again. The Hall rallied its forces for the off-year election to pick 14 of the 21 members of the city council, elected for the second time under proportional representation. The previous council was split about evenly between Tammany and non-Tammany forces.

### PROPORTIONAL REPRESENTATION

**New York.**—Election analysts, noting the light off-year vote in New York City credited proportional representation with being the only election mechanism which could have

prevented Tammany from getting 95 per cent of the council as was its custom before the present voting system went into effect.

**Yonkers.**—Five other American cities chose their councils by P.R. in the biggest demonstration of this voting yet experienced in the United States. The industrial city of Yonkers, just north of New York City on the Hudson River, elected its council under P.R. for the first time, under its new council-manager system. Commentators noted the exceptionally low invalid vote—2.3 per cent—and the phenomenal size of the vote, nearly 58,000 valid ballots in a city with a total population of about 150,000. Of the five council members chosen two were elected on the Democratic ticket, two were endorsed by the City Manager League, and one was a Republican. Machine politicians of both parties immediately served notice they will fight P.R. in Yonkers from now on.

**Cincinnati.**—The eighth biennial P.R. election placed on the council four charter party members, four Republican organization members, and one independent. The charter group was responsible for the adoption of the council-manager-P.R. form of government in 1925 and has remained active ever since, despite Republican attempts to recapture city hall.

**Toledo.**—The third election under Toledo's manager-P.R. charter resulted in the largest turnout of the electorate in history, due partly to local issues and partly to the state vote on old-age pensions. Four candidates endorsed by the City Manager League were elected along with five who were not endorsed.

**Hamilton, O.,** held its seventh biennial P.R. contest which also brought the largest city council vote ever recorded. The Charter League polled 44 per cent of the first-choice votes for its candidates and elected 43 per cent of the council members, three out of seven.

**Other Cities.**—In a quiet election with a light vote Boulder, Col., used P.R. for the twelfth time. Wheeling, W. Va., held its second P.R. election, choosing a nine-man council.

## COUNCIL-MANAGER GOVERNMENTS

**Knoxville.**—Campaigns for charters setting up the council-manager form of city government were active throughout the country with a mixture of victories and defeats. Fifteen communities adopted the plan, 12 of them under new charters. Two adopted the plan by ordinance. The case of the fifteenth city, Knoxville, is unique. The city first adopted the council-manager form in 1923. In 1937 the state legislature passed an amendment to the city's charter, upon which the citizens had no opportunity to act, doing away with the plan. After a determined citizen effort the legislature passed and the governor signed a bill repealing the 1937 charter amendment and reestablishing the plan.

**Trenton.**—Eighteen cities defeated proposals to adopt the manager plan, in many cases by close vote of only a small portion of the electorate who were interested enough to go to the polls. Of the six cities that voted on abandonment of the plan, five retained it. Trenton, where it had been operating since 1936, gave up the system after the citizens' organization that had installed it had fallen apart.

**Illinois.**—Citizens interested in the plan pressed half a dozen state legislatures for wider permission to cities to adopt it, but without notable success. For the third successive year bills which would allow Illinois cities to vote on the plan were introduced in the state legislature but failed to pass.

**Pennsylvania.**—The Pennsylvania legislature buried a council-manager charter for Philadelphia in a committee of the House, after the Senate had passed it. A council-manager charter for Pittsburgh also passed the Senate but failed in the House. Another bill to make the plan optional for third-class cities was not acted on.

**Indiana** failed to pass a bill making council-manager government optional.

**Rhode Island.**—The legislature took no action on a council-manager charter for Providence but just before

## V. MUNICIPAL GOVERNMENT

the legislature adjourned a commission was appointed to draw up a new Providence charter, which was adopted by a vote of the people. It provides for a unicameral legislature in place of the out-moded two-house system, along with other structural improvements.

**Maine and Colorado.**—Maine passed a law allowing towns located fairly near each other to adopt the manager plan and operate collectively under a joint manager. Colorado turned down a bill making the

plan optional for any city which did not adopt a home rule charter.

### GOOD GOVERNMENT PROGRESS

But in almost all of the areas in which 1939 attempts to improve local governments fell short of their mark, citizens continue to move forward into 1940 in their quest of good local government. More and more widely it is being recognized that democracy, under the test of war time, will prove no stronger than its roots which are planted in local government.

## FUNCTIONS AND TYPES OF MUNICIPAL GOVERNMENT

By CLINTON ROGERS WOODRUFF

LAWYER AND WRITER, PHILADELPHIA

### COUNCIL-MANAGER PLAN

Since 1914 an average of 19 cities each year have adopted the council-manager form of local government. By Sept. 15, 1939, 493 cities and six counties had taken this step, and of the total number of cities thus acting 472 are in the continental United States. Of the 93 cities in this country of more than 100,000 population, 19 or one in five are council-manager cities, representing a total of 242 years of manager government, the longest for a single city being Dayton, O., now in its twenty-sixth year. In the population group of 50,000 to 100,000, slightly more than one out of five cities are under council-manager government. Nearly one in every five cities of over 10,000 population is now operating under this form of government.

Since January 1939 the following cities have adopted council-manager government: Killingly, Conn. (8,852); Ft. Collins, Col. (11,489); Buford, Ga. (3,357); Abilene, Kan. (5,638); Caribou, Me. (7,248); Davison (1,298) and North Muskegon (1,370), Mich.; Greenwood, S. C. (11,020); Barre (4,280), Castleton (1,794), and Ludlow (1,642), Vt.; Abingdon, Va. (2,877); and Greendale, Wis. (2,500). Since Jan. 1, 1938, out of the eight cities that voted on abandoning the plan, Ashland, Ky. (29,074) by a

total of 4,303 to 3,895; Trenton, N.J. (123,356) by a vote of 12,619 to 10,925, voted it out. Of all the cities which have adopted the plan in the past nine years, slightly over one-half had been operating under the mayor-council plan, about one-fourth under the commission plan, and the remainder under the town meeting or other form.

In the nine years from 1931 to 1939, inclusive, out of a total of 77 referenda, 12 committees abandoned the council-manager plan in the same manner in which it was adopted, namely by a vote of the people: Ashland, Ky.; Binghamton, N.Y.; Brattleboro, Vt.; Cape May, N.J.; Cleveland, O.; Fall River, Mass.; Lima, O.; San Mateo County, Calif.; Trenton, N.J.; St. Albans, Vt.; Stevens Point, Wis.; Sulphur, Okla.; and Windsor, Vt. In addition the following 14 cities abandoned the plan prior to 1931: Fort Myers, St. Cloud and Tampa, Fla.; Santa Barbara, Calif.; Waltham and Orange, Mass.; Albion, Mich.; Akron, O.; Collinsville and Lawton, Okla.; Ludlow, Vt.; Hot Springs, Ark.; and Denton, Tex.

In 1915, the National Municipal League prepared a model city charter (revised in 1927, 1933 and 1937) embodying the council-manager plan. The acceptance of this form of government in the past 20 years was

## FUNCTIONS AND TYPES OF MUNICIPAL GOVERNMENT

contemporary with the decline of the commission plan. The table below shows the number of cities adopting each of the three forms of government in 11 home-rule states: Arizona, California, Colorado, Kansas, Massachusetts, Michigan, Minnesota, New York, Ohio, Oklahoma and Texas. Nebraska and Oregon are the other home-rule states for which figures were not available.

state housing code; and also gave home rule cities power to regulate billboards. Iowa gave authority to cities under 2,000 population to establish restricted residence districts. Kansas gave power to cities having zoning ordinances to establish systems for new land subdivisions within any village by the state health commissioner as a condition precedent to acceptance of plats for filing by the

Period	Mayor-Council	Commission	Council-Manager	Totals
1911-1920	55 (22%)	106 (4%)	85 (35%)	246 (100%)
1921-1930	31 (23%)	8 (6%)	95 (71%)	134 (100%)

This table indicates that during the first decade 1911-20, 35 per cent of all the charters adopted in the 11 states were of the council-manager type, while in the next decade, 1921-1930, the percentage was 71 per cent. In home rule states, cities can adopt any one of several forms of government without legislative action.

There are only eight states that have neither statutory nor constitutional provisions under which cities may adopt the council-manager plan without first securing specific legislative consent: Delaware, Florida, Georgia, Idaho, Indiana, Maine, Mississippi and Rhode Island. However, certain cities in Delaware, Florida, Georgia and Maine have been able to secure special council-manager charters from their respective legislatures. The states in which certain cities, under varying limitations, can adopt the manager plan (none has done so), are: Alabama, Louisiana, Nevada, New Hampshire, Washington and Wyoming. Detailed legal provisions are set forth in the 1938 *Municipal Year Book* (published by the I.C.M.A.) or can be secured from the Attorney General of each state.

### PLANNING AND ZONING

In the field of planning, business regulations and zoning, several important laws were enacted during the year. Michigan brought house trailers and tents used as dwellings under the

county clerk. New York also passed legislation consolidating all its old laws on public housing and slum clearance, authorizing, in addition, state borrowing and re-lending to local housing authorities in conformity with the new constitution.

New general powers were given to cities in many states. In Arkansas two or more municipal corporations may now jointly construct and operate airports. In Oregon, cities may grant perpetual or unlimited right of ways for power lines to Federal agencies. In Illinois municipal heating plants and systems may be built, and financed by revenue bonds. As an example of a new restriction, local health authorities in New York must now enforce a new state law requiring disinfection of all food utensils used in public places. Three states—California, Pennsylvania and Utah—passed laws prohibiting the sale of fireworks to individuals.

### CITY FINANCING

An "almost frantic search" for new municipal revenues in 1938, leading to the enactment of new taxes, was reported to the International City Managers' Association late in 1939. The report was made by the executive director of the Federation of Tax Administrators. This search for revenues, the report said, produced such taxes as New York City's cigarette, occupancy and gross income taxes;



## V. MUNICIPAL GOVERNMENT

the short-lived Philadelphia gross income tax; Chicago's handbook tax, which the courts invalidated; and chain-store taxes in seven cities, including Savannah and Augusta, Ga. New York City also re-enacted a two per cent emergency retail sales tax. New municipal cigarette taxes, other than dealers' license taxes, were enacted during the year not only in New York City, where a one cent tax promises to produce \$10,000,000 annually, but in Kansas City, Mo., and in several Florida cities. New Orleans passed a one cent sales tax to replace the former two per cent luxury tax. Recent official figures from a sample of 18 cities showed a decrease of five per cent in total revenues between 1936 and 1937, while reports from several in 1938 include a further decline in municipal revenue, the report stated. Increased property tax collections were indicated by the 1937 figures, although this might be a temporary result of the backlog of uncollected taxes, the report pointed out. Figures showed property taxes represented about 70 per cent of all revenues in 1937 for the 18 cities, as compared with only 63 per cent in 1936.

A new Michigan law allowing cities to issue revenue bonds to finance the purchase of construction of municipal parking facilities is the first law of its kind to be enacted by any state. The law places the operation of parking lots or other facilities on the same status with regard to revenue bonds as sewage disposal, water supply, or any other municipal activity financed by such bonds. Bonds of this type according to the law must be retired from earnings of the project for which they are issued.

On Dec. 13, 1939 the City Council of Philadelphia passed an ordinance imposing a municipal tax of 1½ per cent on earned income. This action was taken to make it possible for Philadelphia to balance its 1940 budget. It was estimated that 1,000,000 persons would be liable to payment of the tax, affecting non-residents earning their living in the city as well as residents. The principal exemption was incomes received from

securities. Acting Mayor George Connell signed the ordinance and stated that the tax was the most equitable and least harmful that might be imposed. He prophesied that it would mean "a quickening of business and industrial life" by bringing about a balanced budget and by bolstering "Philadelphia's confidence in its own future." Organized labor planned an attack on the law, and of course the ultimate prospect of the law being declared unconstitutional was a factor to be considered.

### PUBLIC MEETINGS

Regulation of open-air public meetings by city authorities is now entering upon a new phase in consequence of the recent decision of the United States Supreme Court in the so-called "Hague case" (*C.I.O. et al vs. Frank Hague et al*, decided June 5, 1939). This decision lays down new principles of great importance in respect to the constitutional right of assembly. These principles are now the law of the land, binding on all municipal authorities. The decision is of vital effect in clarifying and changing the constitutional doctrine regarding the right of assembly and to name it incumbent upon all municipalities to re-examine their ordinances and policies on this subject, to the end that they shall be in harmony with the law as now determined by the highest tribunal.

Jersey City's ordinance, which was held wholly void by the Supreme Court, required anyone desiring to hold a meeting in the streets or parks of the city to apply for a permit upon three days' notice to the Director of Public Safety. The ordinance authorized the Director to refuse a permit if he believed that the refusal would prevent "riots, disturbances or disorderly assemblages." In so doing, however, it prescribed no standard upon which such belief should be arrived at, such as whether the threatened disorder would probably be beyond the control of police. The plaintiffs, who were refused permits for meetings, alleged discrimination in the administration of the ordinance, in that permits were systematically

refused them while being granted to others during the same period. Accordingly they claimed that the ordinance was void in respect of its administration, whether or not void by its very terms. The Supreme Court substantially disregarded the question of discrimination and went the whole distance in declaring the ordinance void on its face. As Justice Roberts' opinion said, this was because the discretion given to the licensing official was too broad; it enabled the Director of Public Safety to refuse a permit on his "mere opinion" that the refusal would prevent disorder, thus enabling the ordinance to be made the "instrument of arbitrary suppression of free expression." The opinion laid down the broad principal that, although the right of assembly "must be exercised in subordination to the general comfort and convenience, and in consonance with peace and good order," it "must not in the guise of regulation be abridged or denied." On the specific question of threatened disorder as an excuse for withholding permission for meetings, it was said that "uncontrolled official suppression of the privilege of assembly can not be made a substitute for the duty to maintain order in connection with the exercise of the right."

This virtually over-ruled the previous doctrine of the Supreme Court as laid down in a case involving the right to speak on Boston Common decided by a unanimous court in 1897 (*Davis vs. Massachusetts*, 167 U.S. 43). For over 40 years that case confused the question of the nature and extent of the public's right of assembly in streets and parks because of its dictum, adopted in substance by the Supreme Court, to the effect that there was no apparent limit to a city's right to restrict or prohibit meetings on property owned by it. The Boston Common case came up from the Supreme Judicial Court of Massachusetts, for which Mr. Justice Oliver Wendell Holmes wrote the opinion. Justice Holmes, for the Massachusetts court, then declared: "For the legislators absolutely or conditionally to forbid pub-

lic speaking in a highway or public park is no more an infringement of the rights of a member of the public than for the owner of a private house to forbid it in his house." Adopting the same line of thought, Justice White, in affirming the Massachusetts judgment, said: "The right absolutely to exclude all right to use, necessarily includes the authority to determine under what circumstances such use may be availed of, as the greater power includes the less."

#### PUBLIC SAFETY AND WELFARE

One of the first steps, when the Bureau of Public Safety at Rutgers University, New Brunswick, N.J., was organized in July 1937, was to start the development of well-rounded, long-term courses. During its first year of operation a thorough study was made of the two-week intensified courses that were conducted, and these short courses were extended into those of the long-term nature. With such success did these long-term courses meet, that the Bureau is now offering eight full semester courses in criminal law, traffic enforcement and engineering, criminal investigation and public speaking for police, causes and prevention of juvenile delinquency.

An ordinance has been adopted to regulate the circulation of handbills in the City of Waukesha, Wis. which declares it "necessary in the interests of public safety, health and welfare that the distribution of handbills, cards, booklets and other printed and advertising matter be regulated so as to prevent fire hazards, filthy and unclean conditions in public places and in and about private homes, and also to prevent such materials from clogging public drains." Distributors are given the right to leave advertising matter in receptacles provided for the purpose by occupants, but it is stipulated that "no person engaged in distributing any of the aforesaid advertising matter shall cross any lawn or pass over or through any hedges or shrubbery." Any resident who does not want bills left at the door may secure "No Handbill" signs at the City Hall at cost price. Violators of

the ordinance are subject to a penalty of \$1 to \$50 fine or imprisonment of not more than 30 days. Newspapers and periodicals entered as second-class matter under Post Office regulations and printed matter of a religious or educational character are excluded from the provisions of the ordinance.

A project to reduce a \$10,000,000-a-year smoke-damage bill under way in Cleveland is reported by the International City Managers Association. The damage is caused by about 100,000,000 pounds of soot (100 pounds per family) entering the Cleveland atmosphere annually, according to a recent survey which has shown, so far, that steel mills and other industrial plants in a given area are less serious offenders in the matter of excess smoke than are apartment houses. The large industrial plants employ technical experts to see that their fuel is used efficiently, while most apartment houses and small factories do not follow this practice, the survey points out. Extra expenditures of about \$2,600,000 a year for cleaning clothes, curtains and draperies result from this smoke nuisance, according to city and Works Progress Administration smoke technicians co-operating in the project. In addition, soot obscures the sun's rays, and destructive gases in the smoke stunt or kill trees, grass and foliage.

A smoke-abatement program first involves determining the amount of smoke and soot expelled from furnaces, industrial plants and mills; the inspection of heating, power and incinerator units to determine the type of equipment used; the size of smokestacks; and the gathering of information as to kinds of fuel and the manner of stoking.

Upon completion of the survey, civic authorities plan to form a smoke-abatement association. Smoke-ordinance violators will be urged to comply with abatement regulations, and owners of furnaces and other heating units will be instructed in the best methods for avoiding excessive smoke.

Several other cities, including St. Louis, New York, Pittsburgh, In-

dianapolis, and Chicago are making or have made smoke surveys or air-pollution studies. In St. Louis, information gathered to determine the number and classification of buildings equipped with heating appliances is used to help enforce a new city smoke-abatement ordinance.

Pittsburgh in a drive against the smoke nuisance in 1938 enlisted the cooperation of its citizens. Dairy company employees delivered to 100,000 homes a questionnaire relating to personal health histories which might reveal respiratory ailments caused partially by the smoke-laden atmosphere. At the same time, a survey similar to that of Cleveland was made.

### TRAINING IN POLICE MANAGEMENT

In a conference at Ann Arbor, Mich. on April 10 to 15, police officials of leading Michigan cities laid the groundwork for the instruction of their home department administrators regarding sound police management practices. The men, all of whom at least of command officer status, received instruction from experts in vocational training on methods of handling training courses. They later will conduct for their own department members a series of classes in police administration.

The training program sponsored by the Michigan State Vocational Board, will make use of "Municipal Police Administration," the text published by the Institute of Training in Municipal Administration as the basis for its correspondence course in police administration. The Michigan program, however, is not operated as a correspondence course. Classes are organized by individual cities and a single officer assigned by each to attend a week's instructor-leader training session. Copies of the text are purchased by the city or by individuals, and weekly classes organized by the instructor. Comprehensive examinations are being prepared by the Michigan Municipal Personnel Service on each chapter in the text under a contract with the Vocational Board. Officers will be required to pass these examinations before being awarded a



certificate for satisfactory completion of the course. The instructional procedure, therefore, avoids the lecture method so typical of police-training efforts and combines a study of organized material and examination on it with the conference technique. There is no prescribed number of "lessons" but each department may expand any subject to the number of sessions it may desire. Contracts-in-aid, reimbursing the department for instructional expense, are written by each department direct with the State Vocational Board. Cities already participating in the program include Detroit, Escanaba, Gladstone, Grand Rapids, Kalamazoo, Kingsford, Lansing, Menominee and Saginaw.

## POLICE REGULATION AND JURISDICTION

The first district court of appeals in California on June 29 held that the police commission of San Francisco had jurisdiction and power to dismiss police officers who refused to testify before a grand jury during an investigation to determine whether they were guilty of corruption and other criminal activities.

Mayor William E. Kane of Woburn, Mass. who originated the never-carried-out idea of exhibiting drunks in a lion's cage and who recently removed all beds from Woburn's fire houses on the ground that firemen were not paid to sleep, ruled that all Woburn's policemen must be silent on duty except when conversation is needed on official business. Mayor Kane said his order to the police was intended to do away with unnecessary chatter which would interfere with departmental efficiency.

Police inspection of bicycles to insure compliance with mechanical requirements, set up in a new ordinance in Wilmette, Ill., began June 1. This ordinance is designed to curb accidents by prohibiting operation of bicycles on congested streets and highways. Bicycle-testing lanes will be operated at public and parochial schools, and parking zones will be provided in the business district. Riders must observe all traffic signs, but may ride on sidewalks except in

certain designated places. If riding in a group, bicycle operators must ride in single file. Extra riders are prohibited. The ordinance requires that bicycles must be equipped with a horn or other signaling device and that night riders must be equipped with a headlight visible for at least 200 feet and that red reflectors must be attached to the rear fender. The chief of police is given power to suspend or revoke licenses for violation. He may also assess fines ranging from \$1 to \$200.

Official use of the lie detector is increasing. In Toledo it is regarded as equivalent to an increase in personnel and has paid for itself several times over. In many states, it has quickly broken down the alibis of hardened criminals. In 172 cases, 245 subjects have been examined. In 55 instances, the examinations aided in a solution. In these tests, the polygrams indicated deception 112 times, and seven of the subjects were proved guilty even though no confessions were obtained. It indicated no deceptions 73 times, and 36 of these subjects were proved innocent. Fifteen subjects confessed on being confronted by the polygraph; of eight who refused to take tests, seven were proved guilty.

## PUBLIC SERVICE TRAINING

Madison, Wis. is the first city to hire apprentices for its City Hall under the state-wide plan of training for government careers inaugurated in 1938. A University of Wisconsin graduate in sociology will serve as an apprentice case worker in the Madison Welfare Department. Under the arrangement, the University grants the student a loan, which he repays from his apprenticeship salary during the year's appointment. Madison plans to take a second apprentice in the near future. Milwaukee and Wauwatosa are other Wisconsin cities planning similar arrangements. The state government has employed 32 apprentices in various departments since the training plan was adopted.

New York City employees will receive 32 scholarships from the Graduate Division for Training in Public



Service of New York University, in exchange for the services of municipal officials who lecture at the University. The total amount (\$2,000) is known as the Mayor LaGuardia Scholarship Fund, and is available to city employees in four scholarships of \$200 each, eight scholarships of \$100 each, and 20 of \$20 each for applying against tuition fees. The money for these scholarships, according to Provost Rufus D. Smith, will be derived from the savings effected by having Mayor La Guardia and other officials serve as lecturers in a course on "Government and Administration of New York City." As this is a regular course, the University would ordinarily have to pay lecturers. Under the arrangement the city commissioners and department heads will not be paid for their services; instead payment will be made indirectly in the form of these scholarships for other employees. New York University is not a municipal institution, so it would seem that a similar plan might readily be worked out in other communities where there is a municipal college or university.

#### FIRE PREVENTION

A large number of women each year in the United States die victims to feminine fashion of dress. Women's clothing is unfortunately a definite fire hazard which men, with their closer fitting and heavier garments, escape. Burns sustained in ordinary home activities cause the death of about 1,600 women (over age 15) in the United States each year. This includes some 350 deaths from the use of flammable liquids for kindling fires, for dry cleaning, and other purposes; it also includes some 150 deaths through clothes of women catching fire as they warm themselves near open fires or hot stoves. It excludes, however, 350 women who are not counted in this category, but who lose their lives in conflagrations of buildings. The agencies involved in fatal accidents are, in order of importance, stoves and grates (excluding kindling fires with flammable liquids) flammable liquids, matches and cigarettes, hot liquids, bonfires, oil lamps,

electrical appliances and candles. A surprising feature about these accidents is that so many occur, not while the woman is actually at work over or tending the stove, but while she is engaged in other activities. In fact, of the total 171 deaths attributed to accidents through stoves and grates, no less than 90 occurred during such incidental activities. Perhaps the least excusable fire hazard in the home is the use of flammable liquids. Explosions or spreading flames arising from the use of such liquids accounted for no less than 73, or 20 per cent of the total number of fatal home burns here analyzed. Possibly the most reprehensible misuse of flammable substances is their employment in lighting or hurrying along a coal or wood fire.

The leading developments in the field of fire prevention in 1939 have been the accelerated extension of educational activities in municipal fire departments, increasing technical knowledge among department officers and improved evolutions in fire extinguishment among the men. A steady increase may also be noted in the organized inspection of city dwellings by uniformed firemen which is notably reducing the number of fire alarms by eliminating the common causes of home fires, such as the accumulation of combustible rubbish in basements and attics.

In the technical field the development by the National Fire Protection Association of safety regulations governing the installation and operation of air conditioning systems has kept pace with the wide and rapid growth of these aids to comfort and convenience.

In the field of public education the activities of the Association in connection with the National Association for the Prevention of Blindness have made definite progress this year as revealed by the number of states that have interested themselves in the consideration of laws restricting the use of fireworks to public or supervised community displays.

Automobile fires now total over 11 per cent of all alarms in American cities. This percentage has been

## FUNCTIONS AND TYPES OF MUNICIPAL GOVERNMENT

found to be approximately the same in all the various size groups, and emphasizes the need for being prepared to extinguish these fires quickly and efficiently.

The town of Braidwood, Ill. is among those making use of the camera to study fire-fighting operations. Pictures of the department in action are reviewed after the fires in order to study the action of the blaze and the effects of the firemen's efforts, with the hope of receiving guidance in fighting similar fires.

Many hazardous conditions in public dance halls in San Diego, Calif. were corrected when the city manager brought together the police, health, building, electrical and fire departments in making joint inspections of these amusement places. The fire department alone had tried unsuccessfully to eliminate these conditions. Now new dance halls are not given a license unless they are approved by the police, building, health and fire departments.

Attempts to solve the several problems of extra-jurisdictional fire protection were widespread during the year. Illinois, Iowa, Oklahoma, West Virginia, Nebraska and Oregon authorized cities to contract for service outside municipal boundaries. Oklahoma also defined such service as a governmental function, thus protecting firemen against liability and also permitting them to be covered by workmen's compensation. North Carolina has established a state volunteer fire department to protect the personnel of organized fire departments in the state against liability in responding to calls from outside the city limits. Firemen in cities that elect to come under the act will be acting as state employees when fighting fires outside the city limits.

Memphis, Tenn. again won the Grand Award in the National Fire Waste Contest sponsored by the National Fire Waste Council in cooperation with the Chamber of Commerce of the United States. The seven cities adjudged as having done the best work in fire prevention and protection in their respective population groups were Detroit, cities over 500,-

000; Memphis, 200,000 to 500,000; Hartford, Conn., 100,000 to 200,000; Lakewood, Ohio, 50,000 to 100,000; Parkersburg, W.Va., 20,000 to 50,000; and Fremont, Mich. and Valley City, N.D. tied among cities under 20,000 population. The cities reporting in the contest had an average per capita fire loss of \$1.31 for 1938, as against an average annual per capita fire loss of \$1.40 for the same cities for the years 1933-37, inclusive. This represented a reduction of approximately \$2,000,000 a year in property loss in the participating communities.

### RADIO FACILITIES

The relatively low price of radio equipment and the ease of installation have been deciding factors in inducing even small municipalities to employ radio facilities in their organizations. With the increased radio facilities for police, marine, fire, aviation and other services there has been a rapid increase in the number of professional radio operators who must be licensed by the Radio Commission. The total number of licensed operators, excluding amateurs, is approximately 40,000.

During the year a simplified method was adopted to examine professional radio operators, which has lessened the burden on not only the applicant for the license, but on the Commission's personnel who grade the examination papers. The use of radio in police work has steadily grown and the expectations of the licensees as to its value have been fully realized.

### BILLBOARDS

Those interested in roadside beautification, enemies of billboards and roadside signs, won a significant victory in the battle for billboard control. A bill backed by the billboard "barons" of the West Coast was defeated in spite of the fact that the full power of the billboard industry was behind it. This same bill passed both houses of the previous legislature and had been killed only by the Governor's pocket veto.

The bill provided that county zoning must admit billboards where any business of any sort is allowed. This would wipe out the control of bill-

## V. MUNICIPAL GOVERNMENT

boards along scenic highways, such as the Carmel-San Simeon Road and the Skyline Boulevard which have been zoned by their respective counties largely as residence-agricultural, with a very few small business areas created to provide, for the actual needs of the traveler, gas, oil, food and shelter. Billboards are not allowed in these areas, but are permitted only in the real business centers where business is sufficiently congested to require a reduction of speed. The bill would have thrown these limited business areas open to billboards no matter how scenic the highway.

The California victory won by the Planning Boards and the California Roadside Council is of importance not only to California but to the entire country, for highway zoning, the most promising method of billboard control, is spreading rapidly and its value depends upon the defeat of the billboard industry's claim for a preferential treatment admitting billboards to every conceivable type of business zone.

Twenty-six states fought for billboard legislation in 1939. The reason can be seen on any American landscape. It is blazoned across the country side from coast to coast. The investment of \$30,000,000,000 in modern highways to open up the country, and the annual investment of \$5,000,000,000 in pleasure travel along these highways to enjoy the country are both threatened. Whenever and wherever one motors huge billboards intrude upon views of the lakes, rivers and mountains, while thousands of snipes and small sign-boards mar the picturesque landscape. Advertising of all sorts distracts attention at dangerous curves and on crowded thoroughfares.

Of the 26 states that fought for billboard control, only six were able to break the strangle-hold of the billboard industry and pass any sort of a billboard law. Only one state secured a really effective law; two were able slightly to strengthen their former law; and three passed new laws which were very mild but in the right direction.

Vermont greatly strengthened her control over outdoor advertising and today stands next to Massachusetts as a leader in billboard regulation by state law. Vermont now requires a state permit for each sign with a fee of two cents per square foot (minimum fee \$1); also, and most important, a setback of one linear foot for each square foot in the sign's area (minimum setback 35 feet) measured from the center of the traveled way.

Maine raised the license fee required of each billboard company from \$25 to \$100, but lost the effort to increase the permit fee for each sign, although this is needed to cover the costs of administration of the billboard law. Returns from the present fees fall short of paying the costs by several thousand dollars each year.

Connecticut has had for some years a billboard law requiring a permit fee ranging from a minimum of \$3 up to \$9, and a setback of 15 feet from the right-of-way line. This year an attempt was made to restrict all signs to purely commercial districts, a commercial district being defined as the land adjoining any highway on which for at least one half mile, on both sides, the buildings average less than 100 feet apart, and over 50 per cent are used exclusively for business. But the billboard industry still has a strangle-hold on Connecticut, and after a long and well organized fight the only gain made was a provision that each sign in Connecticut must display a metal tag bearing the current permit number. This is expected to result in the removal of hundreds of small signs now illegally maintained.

Delaware passed her first billboard law. The bill as introduced provided for the Massachusetts setbacks, but as in other states, it was drastically cut in the process of enactment. A state permit is now required for each sign, with a metal tag showing the permit number. No fee is required. No signs are allowed on the right-of-way or within 25 feet of a public highway, park or parkway. No signs on rocks, trees or fences are permitted within 50 feet of the highway, nor signs which obstruct the view on

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

curves or at intersections. Signs on the place of business are exempt if not over 30 square feet in area. The regulations went into effect Jan. 1, 1940, and will be retroactive within three years, by the end of which period existing non-conforming signs must be made to conform. The law is to be enforced by the State Highway Department, which is authorized to make further regulations.

West Virginia and Tennessee have passed mild laws requiring a license and permit, thus setting up the machinery for control and a foundation for further legislation. In Tennessee the permit fee is 50 cents for each sign; in West Virginia \$1. Both states require a permit tag to dis-

play the permit number. West Virginia forbids signs in motion.

In addition to these six state billboard laws, California has authorized the State Highway Commission to make divided highways both on new and on existing routes, and to construct freeways. Connecticut has authorized the construction of parkways and freeways in the state highway system. Maryland has declared it illegal for anyone except the State Road Commission or an incorporated town to display signs bearing direction signals within 50 feet of a road, street, or highway. Heretofore the Commission could grant permission for advertising signs used in connection with direction or danger signals.

## PERIODICAL PUBLICATIONS

---

*American City*  
470 Fourth Ave., New York City.  
*Housing*  
105 East 22nd. Street, New York City.  
*Municipal Finance*  
850 East 58th. Street, Chicago.  
*Municipal Sanitation*  
24 West 40th Street, New York City.

*National Municipal Review*  
309 East 34th. Street, New York City.  
*Public Management*  
850 East 58th. Street, Chicago.  
*Public Works*  
310 East 45th Street, New York City.  
*Sewage Works Journal*  
654 Madison Ave., New York City.  
*Water Works and Sewerage*  
400 West Madison Street, Chicago.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

---

AMERICAN CIVIC ASSN., 901 Union Trust Bldg., Washington, D.C.  
AMERICAN LEGISLATORS ASSN., Drexel Ave. and 58th St., Chicago, Ill.  
AMERICAN MUNICIPAL ASSN., 850 E. 58th St., Chicago, Ill.  
AMERICAN SOCIETY OF MUNICIPAL ENGINEERS, 850 E. 58th St., Chicago, Ill.  
GOVERNMENTAL RESEARCH ASSN., 850 E. 58th St., Chicago, Ill.  
INSTITUTE OF PUBLIC ADMINISTRATION, 302 E. 35th St., New York City.

INTERNATIONAL CITY MANAGERS' ASSN., 850 E. 58th St., Chicago, Ill.  
NATIONAL CIVIC FEDERATION, 570 Lexington Ave., New York City.  
NATIONAL CIVIL SERVICE REFORM LEAGUE, 521 Fifth Ave., New York City.  
NATIONAL MUNICIPAL LEAGUE, 309 E. 34th St., New York City.  
UNITED STATES CONFERENCE OF MAYORS, 730 Jackson Pl., Washington, D.C.



## DIVISION VI

### TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

#### ALASKA

By JOHN W. TROY

GOVERNOR OF THE TERRITORY OF ALASKA

---

#### HISTORY AND DESCRIPTION

By the Treaty of March 30, 1867, Alaska was bought from Russia by Secretary of State William H. Seward for the sum of \$7,200,000, and formal transfer was made at Sitka Oct. 18, 1867. By the act of Aug. 24, 1912, Alaska was made a Territory of the United States with a legislature elected by direct vote and a governor appointed by the President for a term of four years. The legislature has two houses—a senate and house of representatives. The capital is Juneau.

Alaska is bounded on the north by the Arctic Ocean, on the west by the Arctic Ocean and the Bering Sea, on the south by the north Pacific Ocean, and on the east by the Dominion of Canada. In the southwest are the Aleutian Islands which stretch westward some 1,200 miles in the Bering Sea. Between Cape Prince of Wales and the Asian coast is the Bering Strait, 54 miles wide. To the southeast, the Panhandle extends 600 miles southward along the Pacific Ocean to the Dixon Inlet. The total area of Alaska is 590,884 square miles or nearly one-fifth of the area of continental United States. Alaska is mountainous with high plateaus, three of its notable peaks being Mt. St. Elias (18,024 feet), Mt. Wrangel (14,005 feet), and Mt. McKinley (20,300 feet), the last named being the highest mountain peak in North America. There are some 20 vol-

canoes, including Mt. Katmai which staged a spectacular eruption on June 6, 1912. Mt. McKinley National Park is a vast wilderness game preserve of 3,030 square miles, and Katmai National Monument is a wild life reserve, notably for bears, of 4,212 square miles.

#### FOREIGN TRADE

During the fiscal year ended June 30, 1939 commerce between Alaska and the United States decreased \$9,-766,138, while the value of shipments from the United States to Alaska increased \$2,058,658. The balance of trade in favor of Alaska was \$27,-380,018, a decrease of \$11,824,796 from the previous year, when trade was somewhat bolstered by large shipments of equipment to Alaska for use in new mining ventures. However, increased activities again prevailed throughout the mining industry in all lines of production. While shipments of fish products, mainly canned salmon, to the United States decreased \$6,622,212 from the previous year, the yield was normal, aggregating in value \$43,602,813, the reduction in value being due to a lowered market value of these commodities. Shipments of fur skins to the United States totalled \$2,599,429, a decrease of \$388,494 from the previous year. Shipments of gold amounted to \$19,-447,009, an increase of \$871,987 compared with 1938. Tourist travel con-

## ALASKA

tinued to increase, and during the summer all ships plying Alaskan waters carried capacity loads.

### FINANCE

Cash on hand in the Territorial treasury Dec. 31, 1938 amounted to \$877,112.82, as compared with \$616,615.71 the previous year. The combined resources of territorial and national banks at close of business June 30, 1939 were approximately as follows: capital, \$825,000; surplus and undivided profits, \$1,176,188.83; deposits, \$16,580,560.40. Totals for the previous year were: capital, \$800,000; surplus and undivided profits \$1,078,123.61; deposits, \$15,308,174.72.

### FISHERIES

The total value of the Alaska fishery products in 1938 was \$42,869,726, a decrease of \$8,873,494 from the preceding year. While the volume of salmon products increased, the value decreased due to a lowered market. Halibut, cod and clam products increased slightly both in volume and value. Shrimps decreased in volume, with a slight increase in value. Crab, herring and whale products showed decrease both in quantity and value due to closing of several production plants. The total number of salmon of all kinds taken in 1938 was 103,022,897, and the number of cases packed was 6,806,998, valued at \$36,636,897, as compared with 6,669,665 cases valued at \$44,547,769 in 1937. Canneries operating numbered 98, or 15 less than in 1937, and the number of persons employed decreased from 24,865 to 22,280. Only 17 herring plants operated, being three less than in the preceding year, and the number of employees dropped from 988 to 940. The total value of these products was \$2,053,084 as compared with \$2,891,854 in 1937. The halibut industry employed 725 persons as compared with 697 in 1937. The value of halibut landings at Alaskan ports totaled \$499,472 as compared with \$630,911 in 1937. Only one whaling station operated in 1938, employing 136 persons; 173 whales were taken, the total value of products being \$179,641, as compared with

\$479,121 in 1937 when 376 whales were taken.

### FURS

A total of 58,364 fur-seal skins were taken in the Pribilof Islands operations in 1938, an increase of 3,184 over 1937. Killings were from surplus three-year-old male seals. Computation as of Aug. 10, 1938 showed 1,872,438 seals of all ages and classes in the Pribilof Islands herd, an increase of 33,319 over 1937. This herd has steadily increased since 1910 when there were but 132,000 seals. During the fiscal year ended June 30, 1938 two public auction sales of fur-seal skins were held by the Fouke Fur Co. at St. Louis, Mo., during which 44,810 skins were disposed of. Gross receipts from these sales, together with an additional 885 skins sold at special sales, were \$871,345. There were also sold 857 blue fox skins for \$16,454 and 16 white fox skins for \$216. In the 1938-39 season 1,018 blue and 11 white fox skins were taken on the two islands.

### REINDEER

The reindeer industry, which was established for the welfare of the native Eskimos and is closely linked with their educational and community life, is administered by the Office of Indian Affairs whose teachers act also as local reindeer superintendents at the 40 established reindeer stations. It is estimated there are 600,000 reindeer in Alaska. The government markets reindeer carcasses only in Alaska, most of the animals being used for food and clothing by the native people.

### MINERALS

The total value of mineral products in Alaska since 1880, when records were first kept to the end of 1938, was \$777,818,000. Of this total nearly 66 per cent has been furnished by gold lodes and placers and over 29 per cent by copper lodes. The peak year was 1916 with a total value of \$50,900,000. Alaska mines produced \$28,607,000 worth of minerals in 1938 as compared with \$26,989,000 in 1937. In 1938 the output of gold from both

## VI. TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

lode and placer mines was \$23,170,000, an increase of \$2,797,000 over 1937. Nearly 72 per cent of this output came from lodes in southeastern Alaska. The Kennicott copper mines, together with smaller mines from whose concentrates copper is recovered as a byproduct, yielded 29,760,000 pounds valued at \$2,981,000, as contrasted with 36,007,000 pounds in 1937 valued at \$4,741,000 due to a lowered average price as well as decreased production volume. A still greater decrease is inevitable because during the year the two principal producers formally closed their properties for good due to exhaustion of ore bodies. The production of all platinum metals in 1938 was 34,420 ounces valued at \$1,229,300 as compared with 8,131 ounces worth \$397,600 in 1937, placing Alaska well upon the list of countries producing these metals. Tin ore deposits in Alaska, mainly in Seward Peninsula, yielded in 1938 210,640 pounds worth \$89,100, compared with 372,400 pounds worth \$202,300 in 1937. Coal to the value of \$620,900 was produced in 1938 from Alaska mines, principally the Matanuska and Healy River fields. In quantity, the output was 159,230 tons which is the largest amount of coal produced by Alaska mines in any year. In addition 23,465 tons of coal were imported, indicating a domestic consumption for the year of about 194,328 tons.

### ALASKA RAILROAD

The number of rail line passengers carried was 27,436, an increase of 1,410 from the previous year. Rail line freight traffic amounted to 157,904 tons, an increase of 2,071 from 1937. Of the total freight 104,066 tons consisted of coal. Emergency Relief allotments totaling \$232,762 during the year gave employment to many relief laborers while improving the rail line.

### AVIATION

With rapid strides commercial aviation is becoming one of the major factors in the industrial life of Alaska. From one experimental air mail contract 15 years ago it has developed

into the present 175 modern planes serving nearly all Alaska. The number of planes was increased by 20 over the preceding year. The number of passengers during 1938-1939 totaled 29,699; passenger miles flown, 5,260,524; mail and freight carried, 4,719,398 pounds. A cooperative program is being worked out by the Alaska Aeronautics Commission, the Federal Communication Commission, and the Civil Aeronautics Authority for installation of radio range beam stations and meteorological stations at strategic points in the Territory, and development of other essential facilities.

### EDUCATION

The territorial public schools in Alaska for the education of white and mixed-blood children, including both elementary and high schools, are under general supervision of the Territorial Board of Education, with the commissioner of education as executive officer. Schools are supported largely by territorial appropriations, augmented for rural schools by 25 per cent of the Alaska Fund which is derived from a variety of Federal taxes collected in the Territory, and for schools within incorporated towns by local taxation to an extent of 20 to 30 per cent of their operating costs. Four-year high schools, accredited by the Northwest Association of Secondary and Higher Schools, are maintained at Anchorage, Cordova, Douglas, Fairbanks, Juneau, Ketchikan, Nome, Petersburg, Seward, Sitka, Skagway and Wrangell, as well as the rural high school at Palmer and the Sheldon Jackson School at Sitka. Nonaccredited high schools are maintained at Haines and Nenana. Graduation from a three-year standard normal school or its equivalent is a prerequisite for the Alaska elementary teacher's certificate. High schools teachers must be graduates of standard four-year colleges and have completed a minimum of 15 semester-hours in education. At the seventeenth annual commencement of the University of Alaska, 33 degrees were conferred covering courses in agriculture, civil engineering, education, his-

## HAWAII

tory and political science, English, secretarial training, commercial education and metallurgic engineering, general science, home economics, and mining engineering. In addition to an enrollment of 291 regular students for the year, 1,194 enrolled in short courses.

Agricultural Experiment Stations are maintained at the University and in Matanuska Valley and at Petersburg where an Experimental Fur Farm has recently been established. An Extension Service serves the territory with five workers. In addition, the Office of Indian Affairs maintained two vocational boarding schools and 99 elementary schools, which serve also as community centers, for the Indians and Esquimos. Programs of study for the schools vary greatly, being based upon the needs and abilities of the individual communities and the extent to which white culture has been adopted. Regular teachers of this office are subject to the civil service rules and regulations. Minimum qualifications require graduation from a three-year teacher's training school or a University bachelor's degree, and two years experience. Increased development of native arts and crafts is an integral part of the program. A total of 154 teachers with 58 Indian apprentice assistants taught 4,677 pupils during 1938-1939.

## HEALTH

The Territorial Department of Health, which has been expanded by grants under the Social Security Act, conducted extensive activities in the territory in close cooperation with the medical service of the Office of Indian Affairs. An intensive survey is under way by these departments, aided by the National Tuberculosis Association, to find and isolate cases of tuberculosis which continues to be the major health problem, with a death rate among the Indians about ten times the rate for the United States as a whole. Hospital facilities are insufficient and funds for construction of tuberculosis hospitals are greatly needed. Two outbreaks of diphtheria the past year caused an intensification of the immigration program against this disease. The venereal disease campaign has been continued and enlarged. A sanitary engineering department supervises examination of water and sewer systems, milk supplies and food establishments. The public laboratory provides diagnostic service for communicable diseases, bacteriological examinations of milk and water supplies, and distribution of biologicals. A program for the betterment of maternal and child health includes public health nursing centers in all larger communities, and hospitalization and treatment for crippled children.

## HAWAII

By JOSEPH B. POINDEXTER

GOVERNOR OF THE TERRITORY OF HAWAII

## GOVERNMENT

Of the 21 islands in the Hawaiian archipelago, eight are inhabited. During the greater part of the nineteenth century the islands formed an independent kingdom, but in 1893 the reigning Queen, Liliuokalani, was deposed and a provisional form of government set up. In 1894 a republic was proclaimed. Pursuant to the request of the people of Hawaii, expressed through the Legislature of the Republic and a resolution of the

United States Congress, approved July 7, 1898, the islands were formally annexed to the United States Aug. 12, 1898. The Organic Act under which Hawaii is governed was approved April 30, 1900, since which date the Hawaiian Islands have been functioning as a full-fledged territory and an integral part of the United States.

Executive power is vested in the Governor who is appointed by the President by and with the advice and



## VI. TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

consent of the Senate of the United States. The Hawaiian Organic Act provides that, in order to be eligible for appointment to the office of Governor of Hawaii, one shall have resided in Hawaii for at least three years next preceding appointment. The Secretary of the Territory, who becomes Acting Governor during the illness or in the absence from the Territory of the Governor, is also appointed by the President by and with the advice and consent of the Senate. There is a legislature of two houses, a Senate of 15 members elected for terms of four years, and a House of Representatives of 30 members elected for terms of two years.

Hawaii is represented in Congress by a Delegate elected biennially. He has the right to debate and may be a member of committees of the House of Representatives but has no vote.

### AREA AND POPULATION

For administrative purposes the Territory is divided into five counties as follows: City and County of Honolulu, comprising the Island of Oahu (area 604 sq. m., estimated population 1939, 228,586); County of Hawaii, comprising the Island of Hawaii (area 4,030 sq. m., population 81,953); County of Maui, comprising the Islands of Maui, Lanai, Kahoolawe and all of Molokai except the leper settlement (area 1,164 sq. m., population 63,594); County of Kauai, comprising the Islands of Kauai and Niihau (area 627 sq. m., population 40,354); and Kalawao, administered by the Board of Hospitals and Settlement (area 10 sq. m., population 504). The total area is 6,435 square miles and the population is 414,991. The principal cities are Honolulu, the capital, situated on the Island of Oahu, population 154,476, and Hilo, on the Island of Hawaii, 16,700.

### COMMERCE

Hawaii's imports and exports during 1938 (latest available) showed a big decrease from the previous year. The value of shipments to the mainland United States from Hawaii was

\$96,556,679 and to foreign countries \$1,529,442. Imports from the mainland United States amounted to \$101,223,813 and from foreign countries \$8,254,772, total imports and exports amounting to \$207,564,706, a decrease from 1937 of more than \$38,000,000. For the first time in the history of the Territory of Hawaii, the balance of trade was unfavorable to Hawaii. The principal items exported to the mainland United States were sugar, raw and refined, \$50,743,327; canned pineapples, \$24,631,405; pineapple juice, \$13,216,988; coffee, \$286,165. Internal revenue receipts for the fiscal year ended June 30, 1939, amounted to \$11,766,650, a decrease over the previous year of \$2,520,006.

### SUGAR INDUSTRY

Benefit payments on sugar produced in Hawaii in 1938 from the Agricultural Adjustment Administration were made to more than 2,000 producers, and totaled approximately \$8,594,000, compared with payments of \$4,175,000 from Sept. 1, 1937, to the end of that calendar year. In addition, payments under the Soil Conservation and Domestic Allotment Act and the Agricultural Adjustment Act of 1938 were made in the calendar year 1938 to 688 participating farmers in the Territory, which totaled \$100,749.58, for adopting practices designed to retard soil erosion and to improve soil fertility.

The Sugar Act of 1937 provides for quota restriction of sugar deliveries from all sources supplying the continental market in order to maintain a satisfactory domestic price level in view of abnormally low world sugar prices. In addition, payments are made to producers of sugar crops on the conditions, among others, that child labor be eliminated from the production of these crops and that fair and reasonable wages be paid to those employed in the production of such crops.

The amount of sugar estimated to be produced in the Territory in 1939 is approximately 1,061,000 short tons, raw value. Of this amount, approximately 948,000 tons may be delivered to the mainland market and 29,412

## HAWAII

tons may be sold locally. The difference between the amount which may be produced and that which may be sold provides a normal reserve.

### PINEAPPLES

There was relatively little difference between the movement of canned pineapple and pineapple juice from the Territory of Hawaii in the fiscal year ended May 31, 1939, and that of the preceding twelve-months period. However, some recent trade reports have pointed out that shipments of pineapple products during the calendar year 1938 were shown by the United States Customs Service to have been valued at approximately a third less than in 1937. To understand the situation fully it should be borne in mind that the Hawaiian pineapple industry operates on the basis of fiscal years ending May 31. While various factors, including the business recession of 1938, served to reduce the movement of pineapple products from the islands during that calendar year, shipments in the first five months of 1939 increased to such volume as substantially to overcome the slower movement of preceding months.

The various members of the Pineapple Producers Cooperative Association have been able, as a result of the relative stability of the industry, to maintain steady employment and a high level of wages.

Although faced with extreme fluctuations in the prices of competing fruits the demand for canned pineapple products at reasonable prices remained firm during the year. This demand showed strong resistance to general economic depressions and there is much reason to believe that the consumption of these products in the United States will continue to grow.

### FINANCES

The Territorial General Fund had on June 30, 1939, a total cash surplus of \$960,265.79, or approximately \$420,000 more than the anticipated surplus of \$540,000 which had been presented to the 1939 Legislature of Hawaii by the fiscal advisors of the Governor.

Total resources of this fund as of June 30 were placed at \$6,144,699.64, consisting of cash on hand and in banks, \$2,415,007.87; current taxes due but uncollected, \$2,606,597.30; due from other funds, \$140,456.11; accounts receivable, \$977,214.47; notes receivable \$435.39 and advances receivable \$4,988.50. From these \$6,144,699.64 total resources were subtracted \$3,729,691.77 as resources applicable to future bienniums, leaving total current resources at \$2,415,007.87.

Against these total current resources stood obligations and reserves aggregating \$1,454,742.08, consisting of unallotted appropriations, \$482,030.23; reserved for contracts, \$246,716.29; contingent appropriations, \$72,653.39; reimbursement of erroneous receipts, \$8,627.78; unavailable resources (advance collections), \$644,714.39. The General Fund began the 1938-1939 fiscal period with available cash of \$2,577,327.21, with total receipts of \$14,468,991.02 during the year, or total assets of \$17,046,318.23. Against this, total payments of \$14,631,310.36 were made, leaving the available cash at the close of the year at \$2,415,007.87.

Outstanding bonds of the Territory on June 30, 1939, amounted to \$39,046,000, as compared with \$36,167,000 on June 30, 1938. During the year, a total of \$324,000 in bonds was redeemed by the Territory, while \$3,203,000 new bonds were issued, consisting of an issue of \$2,886,000 on July 10, 1938 and \$317,000 on Feb. 20, 1939.

On June 30, 1939, there were 984 corporations in the Territory with aggregate capitalization of \$352,486,458. Of these, agricultural corporations led all the rest with a total of 86 companies and an aggregate capitalization of \$181,854,000; while financial institutions numbering 232 had a total capitalization of \$72,668,588; and public utilities, with 39, had an aggregate capitalization of \$41,535,448.

Gross assessed value of real and personal property in 1939 was listed at \$425,203,298, as compared with \$392,976,235 in 1938, an increase of \$32,227,063, or 8.201 per cent.

## VI. TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

### COMMERCIAL AVIATION

Honolulu is a port of call for the Clipper planes of the Pan-American airways on their San Francisco-Hong-kong route, and fairly regular schedules were maintained during the year. Daily airplane service between the principal islands of the Hawaiian group is maintained by the Inter-Island Airways, Ltd., which operates five amphibian planes in the service. During the fiscal year ended

June 30, 1939, these five planes flew 476,797 miles and carried 24,146 passengers.

### MOTOR AND RAIL TRAFFIC

There were 66,485 privately owned automobiles on June 30, 1939. This is approximately one to every six persons in the Territory. Three railroad companies operating on 333 miles of track carried 282,616 passengers and 2,017,105 tons of freight.

## PUERTO RICO

BY WILLIAM D. LEAHY

GOVERNOR OF PUERTO RICO

### DESCRIPTION AND AREA

Puerto Rico is a mountainous island with an area of 3,406 square miles and a total population of about 1,800,000. It is bound on the north by the Atlantic, and on the south by the Caribbean Sea. It was discovered by Christopher Columbus on his second voyage in 1493, and was settled by Don Juan Ponce de León who conquered the fierce Caribe tribes inhabiting the island. For the past 41 years—since the Spanish-American War—the island has been a possession of the United States. San Juan, the capital city, is approximately 1,400 miles from New York City and 963 nautical miles from Key West. The island is continually cooled by tradewinds from the northeast and possesses what the San Juan Weather Bureau calls “one of the finest winter climates on our planet.” The average winter temperature is 73° F. and the summer average 76°. In the mountains of the Central Cordillera the average temperature is 70°. Puerto Rico is considered the coolest region in the Caribbean tropics, with 90° the highest temperature ever recorded. The island is sometimes called “the tropical isle with the temperate clime.” Puerto Rico is 100 miles long and 35 miles wide, and is latticed with a network of good roads. The common language of the island is Spanish but English is

taught at all schools and is widely spoken and understood.

### GOVERNMENT

Puerto Rico has been held by the United States Supreme Court to be unincorporated territory of the United States, a status differing from that of those territories which have been incorporated into the Union.

Puerto Rico is governed under the Act of Congress of March 2, 1917, known as the Organic Act, and subsequent amendments. Supreme executive power is vested in the Governor, who is appointed by the President of the United States by and with the advice and consent of the Senate of the United States, and holds office at the pleasure of the President. The act provides for seven departments—Justice, Finance, Interior, Education, Agriculture and Commerce, Labor, and Health. The Attorney General, who heads the Department of Justice, and the Commissioner of Education are similarly appointed by the President; the others are appointed by the Governor with the advice and consent of the Insular Senate. The department heads collectively form a council to the Governor known as the Executive Council. The Auditor of Puerto Rico is also appointed by the President.

The island is represented in the United States by an elected Resident Commissioner, who has a seat in the



## PUERTO RICO

United States House of Representatives, with the right to debate but not to vote.

Local legislative powers are vested in a Senate and a House of Representatives chosen by the electorate of the island every four years.

The judiciary system consists of the Supreme Court, the District Court of the United States for Puerto Rico, the district and municipal courts, and justices of the peace. Appeals may be made in certain cases to appropriate higher courts, including the Supreme Court of the United States. The Chief Justice and four Associate Justices of the Supreme Court, the District Judge, District Attorney and Marshall of the District Court for Puerto Rico are appointed by the President. Statutory laws of the United States not locally inapplicable, except as otherwise provided, are in effect in Puerto Rico, except the internal revenue laws.

### LEGISLATION

The first special session of the Fourteenth Legislature was called Aug. 6, 1938. Among 18 bills passed and signed by Governor Blanton Winship were measures increasing the property tax 1/100 of one per cent to finance construction of a graving-dock at San Juan; to provide for the construction of a pier at San Juan for steamships of heavy tonnage; and to appropriate \$70,000 in connection with Federal funds to eliminate grade crossings.

The third regular session of the Fourteenth Legislature convened Feb. 13, 1939. Among 184 bills and two joint resolutions passed and approved were measures to create a Judicial Council; to transfer the Insular-owned Isla Grande in San Juan harbor to the Federal Government for use as a naval air base; to authorize the people of Puerto Rico to acquire the Porto Rico Railway Light and Power Company; and to facilitate slum clearance.

The second special session of the Fourteenth Legislature was called May 10, 1939. Among legislation approved were measures increasing the income tax; remitting all property

taxes in arrears prior to June 30, 1938 up to \$400; and establishing an improved system for registering voters.

### TOURIST PROMOTION

In order to take advantage of the situation caused by the outbreak of war in Europe, the Institute of Tourism of the Government of Puerto Rico is undertaking to develop the facilities of Puerto Rico with a view to placing them on a competitive basis with those of Cuba, Bermuda, Jamaica and other resort areas for the American traveller to which it has become difficult to arrange transportation. At the 1936 session of the Legislature, special legislation was enacted for promoting the tourist business and making its attractions and resources known to the mainland. The Institute of Tourism was created by appropriating four-fifths of the proceeds of a special tax estimated to produce about \$200,000 a year. The tangible results of the program have been: in 1936-37 some 14,000 tourists, spending an average of \$15 a day, visited San Juan; in 1937-38 about 29,000 vacationists visited the island, and from July 1, 1938 to June 15, 1939, Puerto Rico became a play land for 44,609 excursionists. Arrangements have been made for high quality and far-reaching publicity and advertising campaigns, and an attractive Puerto Rican tourist office has been opened in Rockefeller Center in New York City. The publicity program has undoubtedly resulted in a much better understanding of Puerto Rico and its problems than previously existed in the continental United States.

### ECONOMIC CONDITIONS

An economic depression which threatened the island in the early part of 1939 was averted by the temporary raising of sugar restrictions and the prompt arrival of Federal funds for the purpose of combating the island's persistent unemployment problem which had been estimated in some official quarters to involve as high as 400,000 in a total population of less than 2,000,000. The operation of the sugar quota and the Fair



## VI. TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

Labor Standards Act in Puerto Rico had severe economic repercussions. Cultivation of food crops on unused sugar lands was encouraged by the government, and surplus commodities were distributed. There was a considerable amount of activity in the building industries, chiefly in San Juan, during the year. Added impetus will be given to building activity by the creation of a \$12,000,000 Federal Housing Program.

In many other respects the island is going through a period of great progress and development. An estimated \$40,000,000 will be spent by the army and navy in the next few years, mainly in the construction of air bases. Commerce is very active, and the larger volume of overseas trade and the increased value of shipments, both to and from Puerto Rico, indicate a remarkable economic progress. Agricultural rehabilitation projects, including the development of small farming and diversified crops, have been carried on by the Puerto Rican Reconstruction Administration to combat the concentration of land holdings in a few hands and to eliminate absentee ownership and one-crop agriculture. Government and private building construction in cities and towns is general. Tax collections were somewhat lower this year due to the general recession of business. The Insular Government has kept within its budget and added to its surplus. The practical elimination of usury by the vigorous enforcement of the usury laws and the bringing in of money for loans through the Federal Land Bank and other Federal agencies has made money available at reasonably low rates of interest.

### TRADE AND COMMERCE

Puerto Rican overseas trade showed a favorable balance of \$3,762,388 in 1938-39, as compared with an unfavorable balance of \$11,237,605 in 1937-38. During 1938-39 the increase in total exports to all countries was \$4,409,392, or 5.4 per cent over the previous year. The decrease in total imports from all countries was \$10,590,601 or 11.34 per cent, which indicates the degree to which the purchasing power

of the island has been reduced from that of the previous year. As in the past, by far the greatest part of Puerto Rico's overseas trade was with continental United States. This amounted to 94.826 per cent in the fiscal year 1938-39. With the exception of the United Kingdom, Puerto Rico buys more food from the United States than from any other country. Latest figures show Puerto Rico as the ninth largest customer of the United States, and the best Latin-American customer. The coffee trade showed an encouraging increase in 1938-39. Exports increased from 592,807 pounds valued at \$110,987 in 1937-38 to 3,667,110 pounds valued at \$527,101 in 1938-39. The European market during 1938-39 took 3,143,623 pounds of Puerto Rican coffee valued at \$459,556, as compared with 454,153 pounds valued at \$90,287 in 1938. Rum and liquor exports have also increased steadily.

### FINANCE

The annual budget of the Insular Government for the fiscal year was balanced, as in each of the immediately preceding four years. However, general governmental activities had to be somewhat restricted during the year because of the decline in business conditions and the consequent decrease in insular revenue collections. The total cash balance for the year ended June 30, 1939 was \$13,706,646.14. The general fund, also called Insular revenues, consists of tax collections and other receivables which according to law are expressly available to meet the current expenses of the Insular Government. The revenue collections on June 30, 1939 amounted to \$15,471,621.51. The cash balance in the general fund was \$1,274,033.14, as compared with \$2,683,623 for the previous year, and \$1,564,714 for 1936. The cash balance available in trust fund accounts on June 30, 1939, was \$12,432,613.00, as compared with a cash balance of \$12,033,755.67 on June 30, 1938.

The total bonded indebtedness of the people of Puerto Rico on June 30, 1939 was \$26,215,000, as compared with \$27,400,000 on June 30, 1938. On

## PUERTO RICO

June 30, 1939, the notes payable amounted to \$170,000, as compared with \$175,000 on June 30, 1938. Municipal budgets for the fiscal year 1938-39 amounted to \$6,626,759.55, or \$349,716.62 more than for the preceding year. The total receipts for 1938-39 amounted to \$11,549,155.10, as compared with \$8,884,550.83 for the preceding year; and disbursements totalled \$12,968,733.67, as compared with \$8,726,814.33 for the previous year. Property taxes which are the most important source of municipal revenue were collected by 76 municipalities during the fiscal year 1938-39 in the amount of \$5,414,541.06, as compared with \$5,018,039.61 during 1937-38.

The people of Puerto Rico spent nearly \$56,000,000 for the purposes of government during the fiscal year ended June 30, 1939. The total cost of government in Puerto Rico for the fiscal year 1930-31 was approximately \$30,000,000. There has thus been an increase of approximately 87 per cent during the past eight years. Condonation of back taxes of \$400 or less, amounting to a total of \$2,250,000, was authorized by the legislature this year, to be offset with tangible revenue in the form of an additional tax on cigarettes of one cent a package. Normal income tax and surtax was increased by approximately 15 per cent.

### DEFENSE

The strategic importance of Puerto Rico as the first bastion of defense against an easternward attack on the Panama Canal lifeline was this year recognized almost simultaneously by the army and navy. A \$40,000,000 defense program by both defense arms will result in the construction of two air bases on the island. The army is building its air base at a site on the northwestern tip of the island, overlooking strategically important Mona Passage. Work on the site of Punta Borinquen—known as Puerto Rican Airbase No. 1—is going ahead at a pace rapidly accelerated by the outbreak of the European War, and is expected to be finished late in 1940. The navy is building its air base at

Isla Grande, a site just outside San Juan. The navy's immediate \$9,300,000 construction program also embraces the construction of a submarine base in Puerto Rico. The army's first new military department in the past 40 years—the Department of Puerto Rico—was instituted July 1, 1939 in the patio of the historic Santo Domingo Barracks in San Juan. Its commanding officer is Brigadier General Edmund L. Daley. The army now has four military reservations on the island—El Morro fortress in San Juan; Camp Buchanan, near Bayamón; Henry Barracks, at Cayey, and Punta Borinquen. It is expected that the army will construct many auxiliary air bases at sites throughout the island.

### AGRICULTURE

One of the leading agricultural problems with which Puerto Rico is confronted is inadequate tenure of land, with 88 per cent of the total number of farms less than 20 acres in size. To counteract this situation, the benefits of the Bankhead-Jones Farm Tenant Act were made available to Puerto Rico, entitling farm tenants, farm laborers, share-croppers or persons who recently drew the major portion of their income from farming operations to obtain a loan to acquire family-size farms. With the funds available from the Farm Security Administration of the United States Department of Agriculture, 32 loans amounting to \$166,105 have been made. The average size of the families of these borrowers was 11 persons, the average size of farm 53 acres, and the average loan comprising cost of farm repairs, new constructions and land improvement was \$5,188. From the standpoint of agricultural education and services rendered to farmers, the Government is endeavoring to bring to all rural people and especially to small farmers, who comprise 80 per cent of the island's farm population according to the 1935 census, the latest information regarding agriculture and home economics and to help them adopt improved methods and practices in production and marketing of crops and livestock. The Federal and

## VI. TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

Insular Experiment Stations are continuously obtaining fundamental information pertaining to agriculture and industry and possibilities of new crops for the island which will diversify agriculture and add new income for the farmers:

### HEALTH

The extension of local health agencies to the entire territory of the island has resulted in a considerable decline in the mortality rate during the period 1934-1938, as compared with the period 1929-1933. The average general mortality rate for the period 1934-1938 was 19.6 per 1,000 population as compared with an average annual rate of 21.8 for the previous five years. Extensive work has been done to combat the effects of hookworm and malaria by the avoidance of soil contamination through the construction of sanitary facilities and the elimination of the anopholes mosquito in its larval stage by subsoil tile drainage and the filling of lowlands. An intensive anti-tuberculosis campaign, started in 1934, is being carried on with gratifying results. The Puerto Rico Reconstruction Administration has built 24 modern public health units in over 20 municipalities throughout the island. Following a survey by the United States Public Health Service, a legislative act provided for the construction and operation of four district hospitals, with a capacity of 300 beds each, by the Insular Department of Health.

### EDUCATION

A move to make the University of Puerto Rico a Pan-American cultural center, where students from the Americas may be brought into closer harmony, received encouragement early in 1939 from the visit of a President's Commission of nine men, headed by Dr. Isaiah Bowman of Johns Hopkins University. The bilingual student body and faculty, and its admirable location equidistant between North and South America, give the University at Río Piedras unique advantages as the site for such a center. The enrollment of the university this year reached 5,009, the

largest in its history and an increase of 506 over last year's figures.

Although expenses for education constitute about 40 per cent of the budget, and although the number of pupils during the school year 1938-39 was the highest in Puerto Rican history, about half the children of school age were not in school. Enrollment in the public schools, elementary and secondary, this year was 281,359. The teaching staffs and field personnel totalled 6,562. Appropriations for the fiscal year were \$5,802,872.78. On this island, which has more professional men than skilled laborers, courses in industrial arts were offered this year in 56 urban centers. There were 174 teachers and 11,793 enrolled students. In the second-unit schools, where the small farmer as well as the child is taught, considerable emphasis has been placed on instruction in handicrafts. Puerto Ricans are skillful handworkers, and it is believed that, with sufficient investment, souvenir and toy-making, the manufacture of hand-woven rugs, etc., can be developed into important industries.

Puerto Rico, in the organization of its schools, follows the 8-4 plan. In the rural zone, a differentiation between primary and intermediate schools has been initiated with the organization of the rural second unit school. This type of school should develop into a rural junior high school of a vocational character. During the year 51 private schools were in operation with an enrollment of 10,862, employing 480 teachers.

The high reputation of the School of Tropical Medicine, in San Juan, which is affiliated with Columbia University, prompted the establishment of a School of Tropical Forestry. This school, which will be invaluable to Puerto Rico and to the mainland United States and South America as well, is soon to be built, with an appropriation of \$30,000 from the United States Department of Agriculture.

### LABOR CONDITIONS

Labor legislation in Puerto Rico is far in advance of that of most of the



## THE PHILIPPINE ISLANDS

states. Recent labor legislation includes an eight-hour law applicable to farm laborers as well as industrial workers, and a self-supporting workman's accident compensation law financed exclusively by an insular insurance fund which balances its budget and has had an annual surplus. This last law, which is administered by an expert appointed directly by the Governor for a term of six years and hence not subject to political pressure, provides death benefits of from \$1,000 to \$3,000 to the wife, children or other dependents of a worker who dies of injury or disease within the purview of the act. The principle of collective bar-

gaining is recognized, and all major industrial disputes in recent years, including the longshoreman's strike in San Juan and the threatened strikes of sugar workers, have been peaceably settled by arbitration usually resulting in higher wages and shorter hours. Collective agreements entered into by the Free Federation of Workmen of Puerto Rico and the Sugar Producers Association and by the Longshoremen Unions and the shipping companies prevented labor troubles that might have involved some 140,000 workers in the first case and 12,000 in the second. Similar agreements in the tobacco-stripping industry have been effected.

## THE PHILIPPINE ISLANDS

BY RICHARD R. ELY

SUPERVISOR OF PHILIPPINE AFFAIRS, DEPARTMENT OF THE INTERIOR

### POLITICAL AND GOVERNMENTAL STATUS

The status of the Philippine Islands is that of an unincorporated territory of the United States. Under the program provided in the Independence Act of 1934 complete independence of the Islands will be established in 1946. The act specifically sets forth the general powers and authority reserved to the United States during the period of the Philippine Commonwealth government. The public debt may not exceed limits now or hereafter fixed by the Congress of the United States; trade relations with the United States continue to be governed exclusively by Congress; acts of the National Assembly affecting currency, coinage, imports, exports and immigration do not become effective until approved by the President of the United States; foreign affairs remain under the direct supervision and control of the United States; all acts passed by the National Assembly must be reported to the Congress of the United States; decisions of the courts of the Commonwealth government are subject to review by the Supreme Court of the United States; citizens and corporations of the

United States enjoy in the Commonwealth of the Philippines all the civil rights of citizens and corporations of the Philippines. The United States reserves the right to maintain military and other reservations in the Islands until independence, and to occupy naval reservations and fueling stations after independence. There is also reserved to the United States the right to intervene under certain conditions set forth in the act. During the period of the Commonwealth government a United States High Commissioner "shall be the representative of the President of the United States in the Philippine Islands."

### CITIZENSHIP

Citizens of the Philippine Islands owe allegiance to and are under the protection of the United States but are not citizens thereof. Those who have had honourable service of not less than three years in the United States Navy or Marine Corps or the Naval Auxiliary Service or Coast Guard may become citizens of the United States. For purposes of immigration the Philippine Islands are considered as a separate country, and the number of immigrants that may



## VI. TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

enter the United States from the Islands for each fiscal year is limited to a quota of 50.

### GOVERNMENT ORGANIZATION

The executive power is vested in the President of the Philippines, elected by the Filipino people for a six-year term and ineligible for re-election. He controls all executive branches and has general supervision over local governments. He appoints all senior officers of government and all minor officials not otherwise provided for. The President is commander-in-chief of the armed forces of the Philippines; in emergencies he may suspend the writ of *habeas corpus* or place the Islands under martial law. He has power to grant reprieves and pardons and remit fines and forfeitures, after conviction, for all offenses, except in cases of impeachment.

There are nine executive departments. The Auditor-General is appointed by the President for a ten-year term and is not eligible for reappointment. The Philippine Resident Commissioner to the United States is appointed by the President of the Philippines.

The legislative power is vested in a unicameral legislature called the National Assembly to meet every year in regular session for not to exceed 100 days. Special sessions are limited to 30 days. The membership, not to exceed 120 apportioned on basis of population, is elected by popular vote every three years. Close control, and supervision over the natural resources of the Islands is given to the Assembly. That body has power to legislate with reference to public lands, timber, and mining. Prior to 1935 legislation on these subjects required the approval of the President of the United States before becoming effective. Heads of departments may be heard before the Assembly. Veto provisions are similar to those in the United States Constitution, except that the President may veto specific items in appropriation, tariff, and revenue bills.

At the close 1938, the judicial branch of the Commonwealth government

was composed of seven justices of the Supreme Court, 15 justices of the Court of Appeals, 62 judges of First Instance, three judges of the Court of Industrial Relations, 737 justices of the peace, and 10 judges of chartered cities.

### UNITED STATES HIGH COMMISSIONER

The High Commissioner, Paul V. McNutt, left Manila May 11, 1939, for Washington, D.C., on official business relating to Philippine matters. During his absence J. Weldon Jones, financial adviser, was designated as Acting High Commissioner. Mr. McNutt severed his connection with the position of High Commissioner when he became Federal Security Administrator on July 13. As High Commissioner he was succeeded by Francis B. Sayre, who took the oath of office on Aug. 8 and sailed for Manila on Sept. 26.

### JOINT PREPARATORY COMMITTEE REPORT

The Joint Preparatory Committee on Philippine Affairs, created April 14, 1937, pursuant to an arrangement between the President of the United States and the President of the Philippines, submitted its report May 20, 1938. Early in the first session of the 76th Congress, which convened Jan. 3, 1939, legislation to amend the economic provisions of the Tydings-McDuffie Act of 1934 as recommended by the Joint Preparatory Committee was introduced. The Committee's bill, introduced in the Senate Jan. 26, 1939, was recommended by the President of the United States and by the President of the Philippines who sent to the United States Vice-President Osmena as his representative to assist in its passage. This bill covered two periods: first, the remainder of the Commonwealth period until July 4, 1946; and, second, the post-independence period from 1946 to 1960. Extensive hearings were held thereon, but controversy developed over preserving United States-Philippine trade ties for 15 years after independence, and as passed there is no

## THE PHILIPPINE ISLANDS

provision for economic adjustment after 1946.

The bill as enacted on Aug. 7, 1939 (Public No. 300, 76th Congress) is confined to economic and commercial arrangements and does not deal with political issues. It is premised on the assumption that the Philippines will become independent on July 4, 1946, as specified in the Tydings-McDuffie Act. The act establishes a duty-free quota in the United States on certain commodities for the calendar year 1940; reduces the quota 5 per cent each year from 1941 to 1946; and relieves them of the payment of the export tax imposed by the Independence Act. These exports and quotas are: cigars, 200,000,000; scrap tobacco, 4,500,000 pounds; coconut oil, 200,000 long tons; pearl or shell buttons, 850,000 gross.

Regarding embroideries, the calculation of the export taxes would be based on the value of the work done in the Philippine Islands. The value of the American cloth embodied therein is excluded. The provisions with respect to sugar are substantially the same as in the Tydings-McDuffie Act. The Philippines will be allowed to continue to ship into the United States free of duty 850,000 long tons of sugar, of which 50,000 long tons may be refined sugars. Shipments in excess of this quota will be subject to the full United States general customs duty. With regard to cordage, the Independence Act had already been amended by the Cordage Act of June 14, 1935, which was extended to May 1, 1941. The new act continues the annual quota of 6,000,000 pounds from 1941 to 1946. It exempts copra and Manila fiber (abaca) from the payment of the export tax. The export tax provisions in the Independence Act will be retained on Philippine articles, except as otherwise specified above, but the date on which such tax goes into effect is postponed from Nov. 15, 1940, to Jan. 1, 1941. During 1941 the export tax on every such article will be 5 per cent of the United States duty; on each succeeding Jan. 1 thereafter the tax will be increased progressively by an additional 5 per

cent of the American customs duty, except that during the period Jan. 1, 1946, through July 3, 1946, the export tax will remain at 25 per cent of the United States duty.

The act establishes regulations for the collection of export taxes. The proceeds therefrom are restricted to the payment of the bonded indebtedness of the Philippines, its provinces, cities, and municipalities, issued under authority of acts of Congress prior to May 1, 1934. It liberalizes the provisions of existing law restricting the use of the coconut oil tax proceeds, but provides that proceeds derived from this tax shall be held as separate funds and paid into the treasury of the Philippines for the purpose of readjusting Philippine economy to a position independent of trade preferences in the United States and requires that these funds shall be budgeted, appropriated, and accounted for separately from other moneys of the Philippine government.

Other modifications of the Independence Act give to Filipino citizens and corporations all the rights and privileges in the United States which they enjoyed prior to the Commonwealth period. The new act grants authority for the United States to retain such property as may be required for its future diplomatic and consular establishments in the Philippines after July 4, 1946. It provides for a joint conference, to be held at least two years prior to July 4, 1946, for the purpose of formulating recommendations as to trade relations between the United States and the independent Philippine Republic.

The act was not to take effect until approval by the Filipino people in a plebiscite held for that purpose and the completion of certain steps by the Commonwealth government taken prior to Jan. 1, 1940. It was accepted by the National Assembly on Aug. 25 and by the Filipino people in an election held Oct. 4. The necessary amendments to the Philippine constitution have been adopted and all steps necessary for the effectiveness of the act were completed on Dec. 12, 1939, when the President approved

## VI. TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

an Act of the Philippine Assembly providing for export taxes.

### LEGISLATION

Elections for members of the Second National Assembly under the Commonwealth government were held on Nov. 8, 1938. The result was a complete victory for the Nacionalista Party. The first regular session of the Second National Assembly was held from Jan 23 to May 18, 1939. Among the most important of the 85 bills passed were the tax and bank measures. The tax bills included the revised internal revenue code, the residence tax, the assessment tax code and amendments to the Philippine Tariff Act. The three bank bills created the Agricultural and Industrial Bank and a reserve bank and increased the amount that may be loaned by the Philippine National Bank for agricultural purposes. Several bills directly concerned the welfare of laborers. Provisions were made for the transfer of the University of the Philippines to a site outside Manila. Two new executive departments were created—the Department of National Defense and the Department of Health. The general appropriation act totaled nearly \$42,500,000. Three of the measures require the approval of the President of the United States before becoming law. Three special sessions of the Assembly were held principally to pass legislation to make operative certain sections of the Act of Congress approved Aug. 7, 1939 (Public No. 300, 76th Congress).

### FINANCES

The finances of the Commonwealth government were in excellent condition on Dec. 31, 1938. The public debt was small. The sinking funds for all outstanding indebtedness had been regularly provided for and segregated. The currency reserves were in excess of the legal requirements for the currency in circulation. Deposits of Philippine public funds in the United States amounted to \$162,578,715.29.

The total income of the central government was \$76,612,723.86, a de-

crease of \$29,627,989.14 compared with the total income of 1937. Of this decrease \$28,003,737.29 represents the decrease in the amount of coconut oil tax collections received from the United States Treasury Department compared with the amount transferred during the year 1937. The total expenditures for the year amounted to \$69,671,847.96, an increase of \$12,726,862.25 over the expenditures made in 1937. The total current surplus as of Dec. 31, 1938 was \$98,179,954.38, compared with \$103,467,880.87 in 1937, a decrease of \$5,287,926.49. The invested surplus on Dec. 31, 1938, amounted to \$98,473,879.51, as compared with \$85,223,102.70 for the previous year, an increase of \$13,250,776.87.

A net reduction of \$356,000 in the total outstanding bonded indebtedness of the Philippine Islands was made during 1938. On Dec. 31 of that year the bonded indebtedness of the insular government amounted to \$53,980,000, and that of its provinces and municipalities to \$7,816,000, or a grand total of \$61,796,000. Deducting from this total collateral bonds with a face value of \$6,939,000 issued against provincial and municipal bonds, the net amount of outstanding bonds on Dec. 31, 1938, was \$54,857,000, of which \$19,480,500 were owned by the Philippine government, having been purchased from sinking or other funds.

### TRADE

The total external trade of the Philippines with the United States and foreign countries during the year 1938 amounted to \$248,402,825, a decline of \$11,889,170, or 5 per cent under that of 1937. Exports (not including \$31,206,253 of gold and silver) were valued at \$115,795,277, decreasing \$35,470,973, or 23 per cent, while imports amounting to \$132,607,548 were 22 per cent higher. For the first time since 1921 there was an unfavorable balance in commodity trade of \$16,812,271 (not including gold and silver) against the Philippines. Gold production was 26 per cent greater than in 1937 and exceeded that of any state with the exception of Cali-



## THE PHILIPPINE ISLANDS

fornia. The production of iron ore increased 48 per cent.

Trade with the United States totaled \$179,802,223 (exclusive of gold and silver), a decrease of 2 per cent, and made up 72 per cent of the total external trade. Purchases from the United States, the largest since 1929, were valued at \$90,357,229 and represented 68 per cent of total imports into the Islands, as compared with 58 per cent in 1937. Exports to the United States represented a falling off of \$31,298,028 from 1937, the \$89,444,995 trade being approximately 77 per cent of the total exports.

Sugar shipments, practically all of which came to the United States, amounted to 43 per cent of the total export trade and aggregated 854,535 long tons valued at \$50,022,024 as compared with the previous year's total of 857,283 long tons valued at \$57,706,194. Coconut oil, nearly all being shipped to the United States at much lower prices, reached a total of 163,006 long tons valued at \$10,766,455, as compared with the previous year's total of 160,717 long tons valued at \$20,525,537.

Reports on external trade for the six-month period January-June, 1939, following the close of the last calendar year, indicated a balance in favor of the Islands. The import trade was substantially lower, while there was a moderate increase in exports as compared with 1938.

### EDUCATION

There was an unprecedented expansion in the public school system during 1938. The total annual enrollment in September was 1,715,021, an increase of 230,109. The percentage of children of school age enrolled in the public schools increased from 42 to 48.7. To take care of the large increase in enrollment, more than 2,000 new schools were opened and over 5,000 additional teachers were employed. In September the schools numbered 10,718 and the teaching staff numbered 37,593. Of these, only 88 were Americans. Emphasis was placed on primary education with a view to giving every child of school

age an opportunity to complete the four primary grades. The total cost of government spent for public education remains at about 20 per cent. The annual enrollment in private schools was 134,919.

### GENERAL CONDITIONS

The population of the Philippines, as determined by the recent census, has increased from 10,314,000 in 1918 to 15,984,000.

General conditions in 1939 were excellent. Law and order prevailed generally, but there was an increasing number of strikes and disorders evidencing a state of labor unrest, both agrarian and industrial. Perhaps the most pressing problem now confronting the government is to find a solution for the increasing unemployment and constantly recurring labor troubles. Among the measures the government is taking to alleviate this situation are settlement projects designed to stimulate mass migration from the congested areas to sparsely populated regions. During 1938, 3,489 homeseekers, members of family included, were recruited and transported to Mindanao. The Commonwealth government has cooperated in the solution of the Jewish refugee problem by authorizing the admission into Mindanao of selected political refugees, and negotiations are in progress for the settlement of 10,000 Jews there.

Health conditions were good. The Philippines is the only country in the Orient where cholera, plague or smallpox did not occur. The infant mortality rate was 139.04 per 1,000 births as against the average of 146.25 for the past five years. Pulmonary tuberculosis remains the most serious health problem. During 1938, 36,647 deaths resulted from this disease.

A disastrous typhoon in the Bicol region, a severe flood in the Cagayan Valley, and several district fires, created serious relief problems.

On Aug. 13, 1938, the Philippines fittingly celebrated the fortieth anniversary of the occupation of the Islands by the armed forces of the United States.



## VI. TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

### THE VIRGIN ISLANDS OF THE UNITED STATES

By LAWRENCE W. CRAMER

GOVERNOR OF THE VIRGIN ISLANDS

---

#### GOVERNMENT

The islands in this group, of which the largest are St. Croix, St. Thomas and St. John, were purchased by the United States from Denmark in 1917 for \$25,000,000. Until 1931 they were under the jurisdiction of the Navy Department. In March, 1931 they were placed under the jurisdiction of the Department of the Interior and since then have enjoyed the status of an Island Possession. On June 22, 1936 the Congress of the United States passed an Organic Act for the islands, giving a larger amount of self-government to the two Municipal Councils of the islands and creating a Legislative Assembly for the Islands.

#### ECONOMIC SITUATION

Developments during the past fiscal year sharply reveal the fundamental differences in the basic economy of the two municipalities of the Virgin Islands. The sugar business, the basic industry of the island of St. Croix, suffered another severe setback caused by a drought in 1939 following the drought of the previous year. St. Thomas, on the other hand, continued to show improvement due to substantial increase in the shipping business and in the tourist trade.

#### HOMESTEADING

In the island of St. Croix 77 municipal homesteaders and 261 federal homesteaders grew approximately 20 per cent of the sugar cane produced in the island. On the four federal homestead projects there are 284 homesteads totaling 2,148 acres under contract. About 70 per cent of the homesteaders are now in their fifth or sixth year. Fifty-three homesteads occupy 80 plots on two federal homestead projects in St. Thomas. These projects are largely of a subsistence homestead character since no agricultural crop other than vegetables and

fruits for local consumption is grown in St. Thomas.

#### TOURIST TRADE

There has been a substantial increase in the tourist trade in St. Thomas. For the first time a substantial number of cruise ships called at St. Thomas during the summer months. Since July 1, 1939 ten cruise ships called at the port and 33 more have been scheduled for the fiscal year 1940. Among many reasons contributing to this great increase is the development of the Cooperative handicraft shop and the establishment of several other shops catering to the tourist trade.

#### ROADS AND STREETS

Further progress has been made in improving the road system in the Virgin Islands. In St. Croix three miles of new hard surface highway were built, 27½ miles of asphalt surface road were seal-coated, and 39 miles of dirt roads were improved. In St. Thomas 3¼ miles of asphalt penetration road, largely in difficult hillside areas, were laid. The road construction programs have contributed to the development of St. Thomas as a tourist resort and to the facilities for farm market transportation in that island.

Much progress was made during the year in surfacing and improving surface drains, in each of the three towns in the Virgin Islands, and much progress can be reported in the improvement of sanitary facilities in the three towns.

#### NURSERY SCHOOLS

Three nursery schools were conducted under the direction of a highly qualified and capable supervisor. These schools, with an enrollment of 25 pre-school children each, have operated as model schools to demonstrate the feasibility and de-

## THE VIRGIN ISLANDS OF THE UNITED STATES

sirability of establishing this phase of education on a permanent basis.

### COOPERATIVES

The Virgin Islands Cooperatives got its start in the spring of 1931 when Governor Paul M. Pearson initiated a self-help Cooperative to develop a market for the home industries of the islanders. The Virgin Islands Cooperatives are made up of three units—a Handicraft Cooperative, a Cabinet Makers' Cooperative and a Farmers' Cooperative. The Handicraft Cooperative is the largest and most important unit of the Cooperative organization in the Virgin Islands. It furnishes a market where local handicraft goods are sold, chiefly to tourists calling at the port of St. Thomas on cruise ships, but also to mail order customers and to wholesalers in the United States. Approximately 750 persons are engaged in the production of goods, some 200 being steadily engaged in this work.

The Cabinet Makers' Cooperative has 10 members and employs 25 apprentices. It manufactures furniture and small wooden objects, some of which are sold through the Handicraft Cooperative Market.

The Farmers' Cooperative has 63 members, most of them farmers, but a few who are market-women act as "distributing members." These latter sell vegetables, fruits, etc. at retail in the public market. They have found the Cooperative a useful source of supply for their small stock-in-trade. Sales have increased but lack of adequate facilities for storage and refrigeration has been a seriously limiting factor in the development of this organization. Funds have now been made available for the erection of a suitable market with storage and refrigeration facilities.

### SHIPPING

The shipping industry in the port of St. Thomas continued to show improvement during the year, 850 ships with a total tonnage of 3,682,121 having called at the port of St. Thomas during the fiscal year 1939 as compared with 814 ships with tonnage of 3,239,975 during the previous year.

The transshipment of bauxite has continued, bringing 33 ships to port for discharging and loading. Twenty-four cruise ships with 11,715 passengers called at St. Thomas during the year as compared with 6,487 passengers from 13 ships in 1938.

A new airplane service between Puerto Rico and the Virgin Islands was established during the year.

### FINANCES

The revenues of the Municipality of St. Thomas and St. John again showed substantial increase over the previous fiscal year. Those of the Municipality of St. Croix showed a very considerable decline. This decline was due, in part, to the decrease in revenues from the sugar business, resulting from drought, but chiefly because of the non-shipment of sugar ground in the 1939 harvest, because factory owners hoped for action by Congress to repeal the export tax on sugar.

The actual revenues of the Municipality of St. Thomas and St. John were \$232,676 as compared with \$213,981 in 1938 and \$179,640 in 1937. Income tax collections were \$81,900, practically equal to collections of \$81,876 in 1938. A new tax of 4¢ per gallon on gasoline which became effective on July 1, 1938 yielded \$5,843. The new trade tax which became effective on July 1, 1938, superseding an old Trade and Lamp Tax, yielded \$11,644.

The actual revenues of the Municipality of St. Croix were \$156,881 which was a substantial decrease from revenues of \$191,816 in 1938, and \$178,069 in 1937. Income tax collections were \$9,816 as compared with \$16,365 in 1938, and \$12,042 in 1937. Export tax on sugar yielded \$18,493 as compared with \$37,303 in 1938, and \$29,958 in 1937.

The total expenditures of the Municipality of St. Thomas and St. John were budgeted at \$272,244. The United States contributed a deficit appropriation of \$40,000, \$20,000 less than the preceding year.

The total expenditures of the Municipality of St. Croix were budgeted

## VI. TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

at \$249,391. The United States contributed a deficit appropriation of \$80,000, of which \$45,000 was appropriated in the Second Deficiency Bill. It is probable that after all accounts for the fiscal year 1939 are closed there will still be a deficit of approximately \$20,000 borrowed from the Public Funds of the Municipality, which must be repaid during the new fiscal year.

### CIVILIAN CONSERVATION CORPS

Much benefit has been derived from the disciplined activities of the

Civilian Conservation Corps. A number of important projects were conducted during the year. In St. Croix the construction of a road over the mountains, connecting the central plain of the island with a heretofore isolated fertile area along the north shore, was begun. When completed, it will provide a shorter haul for sugar growers on the north side and encourage the development of that section. In addition it will constitute a scenic drive for local residents and tourists. In St. Thomas a substantial road construction and improvement program was carried on.

## GUAM AND AMERICAN SAMOA

BY LEON S. FISKE

COMMANDER, U.S.N.; OFFICE OF ISLAND GOVERNMENTS, NAVY DEPARTMENT

### GUAM

**Historical.**—The Island of Guam, located at the southern end of the Marianas group in approximate latitude 13° North and longitude 145° East, was discovered on March 6, 1521 by Magellan while on his voyage around the world. He named the islands "Ladrones." The name was changed later to "Marianas" in honor of Maria Ana of Austria, Queen of Spain. The first Spanish missionaries landed in Guam on June 15, 1668. A period of colonial development under Spanish rule was inaugurated and continued until June 21, 1898, when the island was captured by the U.S.S. *Charleston*, commanded by Capt. Henry Glass, U. S. Navy. At the termination of the war with Spain, Guam was ceded to the United States by the Treaty of Paris.

**Government.**—The present form of government dates from Dec. 23, 1898, when President McKinley issued an Executive Order placing the Island of Guam under the control and jurisdiction of the Navy Department. A naval officer is commissioned by the President as Governor and the same officer receives orders from the Secretary of the Navy as Commandant of the Naval Station, Guam, which station includes the entire island.

The Island Government, under the Governor, is organized with all the usual governmental departments, headed by naval officers. Civil regulations with the force and effect of law are issued by the Governor. There is a Guam Congress, composed of representatives of the people, which assembles periodically. It has no legislative authority, but acts entirely in an advisory capacity. The present Governor of Guam is Captain James T. Alexander, U. S. Navy. The seat of the island government is Agana.

**Population.**—On June 30, 1939, the total population of Guam was 22,843, divided as follows: native born, 21,199; foreign born, 778; naval establishment and families, 866. The native born population is steadily increasing. The natives are known as Chamorros and are of Malayan origin with strains of Spanish, Mexican, Chinese, American and Filipino blood. The official language is English but the ancient Chamorro tongue, corrupted by Spanish, English and dialects of the Philippines, is still in general use. Under American jurisdiction the natives are regarded as wards of the United States Government and are classified as citizens of Guam. They have been little affected by the po-

## GUAM AND AMERICAN SAMOA

litical, economic and industrial problems of the outside world and are protected from exploitation by the paternal form of government. No alien may own land in Guam and all sales of land must have the approval of the island government.

**Agriculture.**—Nearly every native family cultivates a small farm which supplies the principal necessities of food, and agriculture presents the best opportunity for achieving a self-supporting populace. The island Department of Agriculture, cooperating with the U. S. Department of Agriculture, is engaged in developing new and better crops and in teaching the people modern and scientific farming methods. An experimental farm is maintained for stock breeding and agriculture development; seeds are issued; and irrigation projects are extended. Copra is the principal crop and the one item of export at present, but the production of rice, tobacco and other crops which may be developed is being furthered by the government.

**Trade and Commerce.**—The copra export for the fiscal year 1939 totaled 4,992,649 pounds. The balance of trade against Guam for the fiscal year 1939 was \$535,472. Very few merchant ships called at Guam during the fiscal year 1939; 110 vessels entered and cleared, including government vessels and aircraft clipper ships of the trans-pacific service. Imports were valued at \$659,650 and exports at \$124,178. The Pan American trans-pacific air service through Guam is an important connection with the outside world.

**Banking.**—The Bank of Guam, established by an Executive Order of the Governor in 1915, is the only bank in Guam. The capital stock of \$25,000 is owned by the island government and the bank is operated for commercial banking as a division of the Treasury Department of that government. During the fiscal year 1939, the bank financed shipments of merchandise imported by the merchants of Guam to the value of \$400,148. Gross earnings of the bank for the fiscal year were \$27,823 and net earnings were \$21,518.

**Health and Sanitation.**—The general health and sanitation conditions in Guam are good and there was no disease in epidemic form during the year. There are no civilian physicians or hospitals on the island, and the government hospitals for the people are operated by naval surgeons and nurses and native nurses trained by the naval personnel, who treat the people without charge. One civilian dentist is maintained by the island government. The entire population is benefited by the sanitary instruction, training of nurses and detection and isolation of infectious diseases. Schools are visited and children are examined physically by a health officer on an average of twice yearly.

**Education.**—The general policy of the naval island government, with reference to educational activities, has been formulated as follows: to enlighten the minds of the people by means of education and to stimulate their development through training and self-discipline. In accordance with that general policy, academic instruction includes the usual grammar school subjects with special emphasis placed on teaching the people the English language. Training in industry and agriculture is considered to be of paramount importance in connection with developing and encouraging the people to a greater degree of economic independence. During the year the average enrollment of the public schools was 4,217. There were 26 academic day schools, one high school, five industrial schools, one private school (primer to 12th grade), one agricultural school, and provision for normal school training. All teachers in the regular native schools are natives. Six Americans are employed in the American School for American children.

### AMERICAN SAMOA

**Historical.**—The first record of the Samoan Islands is believed to be that made in 1722 by Jacob Roggeveen, in command of a Dutch expedition to Java *via* Cape Horn. That navigator called his discovery the Bau-mann Island but learned very little



## VI. TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

about them as he did not land. In 1768 they were visited by the French circumnavigator, Bougainville, who named them the Navigators Islands, a name generally used until Capt. Charles Wilkes, U. S. Navy, visiting them in 1839, first called them the Samoan Islands. Native wars and international controversies persisted through the 19th century until, on Dec. 2, 1899, the United States, Great Britain, and Germany signed a treaty by which the Samoan Islands west of longitude 171° W. were allocated to Germany and those east of that line to the United States. On April 17, 1900, the High Chiefs of Tutuila voluntarily ceded the islands of Tutuila and Aunnu to the United States and the islands of the Manua group were ceded by their chiefs on July 16, 1904. By Joint Resolution of Congress approved March 4, 1925 the sovereignty of the United States was extended to Swain's Island, 210 miles to the northward of Tutuila and that island was made a part of American Samoa.

**Government.**—On Feb. 19, 1900, the present form of government was established, when a Presidential Executive Order placed the islands of American Samoa under the jurisdiction of the Secretary of the Navy. They are under the immediate administration of a naval officer who is commissioned by the President as Governor of American Samoa and that officer is also Commandant of the Naval Station, Tutuila. The island government is organized with all the usual governmental departments, and in addition there are native district governors and native county and village chiefs who take an important part in administrative affairs. An annual fono, or general meeting, is attended by the chiefs and delegates of the people, at which meeting the Governor imparts information and receives recommendations and suggestions. The laws of American Samoa are embodied in a codification of the Regulations and Orders for the Government of American Samoa as issued by the Governor. The policy of the island government and Navy Department, briefly expressed as "Non-exploitation of the

natives, non-alienation of the lands, and Samoa for the Samoans," is carefully followed in furthering the best interests of the people. The present Governor is Capt. Edward H. Hanson, U. S. Navy. The seat of the government is Pago Pago, Tutuila.

**Population.**—On June 30, 1939 the total population, including all islands of American Samoa, was 12,785. The present population represents an increase of more than 100 per cent since 1900, the increase being due to the cessation of internecine warfare and the sanitary and medical work of the medical officers of the United States Navy. Under the paternal island government the people are happy and peaceful. Samoan customs and culture are preserved and respected by the authorities.

**Agriculture.**—The development of agricultural and industrial interests in a race not given to such pursuits has been difficult. However, in addition to the tropical fruits and vegetables native to the islands, various trees and crops have been introduced and developed by means of a government experimental farm, the value of which is gradually being realized by the natives. The most important product and export is copra, and the island government handles the sale of that crop.

**Trade and Commerce.**—Practically the only means of trade with the rest of the world is provided by the Matson Navigation Company which maintains a four-week schedule between San Francisco, Honolulu, Pago Pago, Suva, Fiji and Sydney, carrying passengers, mail and freight. Copra is the only export of importance. During the fiscal year 1939, 1,401 tons of copra, valued at \$55,324 were exported.

**Banking.**—The only bank in American Samoa is the Bank of American Samoa, founded in 1914 by Executive Order of the Governor. The bank conducts a general commercial and savings business, its capital stock of \$25,000 is owned by the Island Government, and its principal officers and directors are naval officers of the island government. The bank is in sound financial condition, and the

## AMERICAN EQUATORIAL ISLANDS

volume of its business has increased steadily.

**Health and Sanitation.**—Public health and sanitary conditions are maintained at a high standard by the naval medical officers. There are no civilian physicians in the islands and the medical officers of the Department of Health of the island government treat the entire native population without cost to the people. Hospitalization is modern and native nurses are trained by the naval personnel.

**Education.**—The average student

enrollment for the school year was 2,823. There are 35 schools under the local Department of Education employing 77 teachers, all but ten of whom are natives who have been trained as teachers. Special emphasis is given to instruction in the English language, health and sanitation. Samoan arts and crafts, agriculture, and manual and domestic arts. In addition to the public schools there are six parochial schools conducted by missionaries of various denominations, with a total attendance of about 500.

## AMERICAN EQUATORIAL ISLANDS

By FRANK T. KENNER

ACTING FIELD REPRESENTATIVE, DIVISION OF TERRITORIES AND ISLAND POSSESSIONS, DEPARTMENT OF THE INTERIOR

### HOWLAND ISLAND

Howland Island was first reported as discovered by Capt. George E. Netcher of New Bedford, Mass., Sept. 9, 1842. On Feb. 5, 1857 possession was taken in the name of the American Guano Company by Alfred G. Benson of New York and Charles H. Judd of Honolulu. From 1860 to 1880 colonies of guano diggers were maintained, and many thousands of tons of guano were removed from the island. Regular trips of schooners, barks, and clippers serviced Howland and other islands and carried away cargo during this period. In the early 1880's the American Guano Company discontinued its colony. During the period of 1883 to 1890 several of the Equatorial Islands were occupied by the John T. Arundel Company, a British concern which removed some guano, but in turn abandoned the island. Howland remained uninhabited until an American camp was established there March 30, 1935 by the then Bureau of Commerce, the expedition taking passage on the U. S. Coast Guard cutter *Itasca*. Howland came very prominently before the world in July, 1937, when it was to have been one of the landing fields in Amelia Earhart's round-the-world flight.

### BAKER ISLAND

Baker Island is said to have been discovered by Michael Baker in 1832. Some authorities claim that the date of discovery is 1848, a Capt. H. Foster of the bark *Jamaica* as the discoverer. During the early days Baker Island was frequently visited by whaling ships and on Feb. 12, 1857 the island was claimed by the American Guano Company, Benson and Judd taking possession of the same on that date. In the following year the U. S. ship *St. Mary's*, commanded by Charles H. Davies, again took formal possession for the United States. From this time until 1876 a guano company was maintained. During 1883 to 1890 the John T. Arundel Company maintained a colony but abandoned it. This island remained unoccupied until April 3, 1935 when an American colony from the U. S. Coast Guard cutter *Itasca* occupied it.

### CANTON ISLAND

It is not positively known when or by whom Canton Island was first discovered. Approximately 112 years ago a vessel named *Canton* was cruising in those waters, but a definite date of discovery is lacking. This island has also been known by the

## VI. TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

names of Mary, Swallow, and Mary-Balcout, indicating that it might have been independently discovered by several vessels or parties. It is known that Canton was frequently visited by whalers. It was never regularly worked by the American guano interests, but it was among the islands claimed by the Americans in 1856. In 1916 Canton was leased by the British Government for 87 years to Captain Allen of the Samoan Shipping and Trading Company but, other than planting a few coconut trees, no development was fostered. Canton Island was occupied by American and New Zealand astronomers in June, 1937, when observing the total eclipse of the sun. At present joint British and American colonies occupy the island.

Canton Island became of great importance when the subject of Pacific air routes was first discovered, and it was one of the few islands adequate for seaplane facilities along this route. On March 7, 1938, an American colony was established on Canton Island, the expedition being then in charge of Richard B. Black, field representative of the Department of the Interior. The British Government had already established a similar colony there the previous year. The American colony is situated near the British colony. In May, 1939, Pan American Airways began operations in the establishment of their seaplane base on the Honolulu-Antipodes route. In early April, 1939 the State Department publicly announced the completion of negotiations between Great Britain and the United States concerning the joint occupancy and jurisdiction of Canton Island. This also applied to Enderbury Island.

### ENDERBURY ISLAND

An exact record of the discovery of Enderbury Island is not known. It was visited Aug. 28, 1840 by the U. S. ship *Vincennes* and again on Jan. 18, 1841 by the *Peacock* and *Flying Fish* of the U. S. Exploring Expedition, commanded by Commander Wilkes, a complete survey of the island being made at that time and position definitely fixed by the U. S. ship *Tusca-*

*rora*. Enderbury was one of the principal islands operated by the American guano interest between 1862 when the first colony on it was established until 1878 when the island was finally abandoned. After the Americans abandoned the island British concerns worked the guano deposits from time to time. In 1889 Enderbury was leased to the Pacific Islands Company, but little was done by that company and the project was finally abandoned. On June 8, 1937, Enderbury was visited by the American Eclipse Expedition but, due to landing conditions, Canton was selected as the site for the final work. On March 6, 1939, a Department of the Interior expedition in charge of Richard B. Black hoisted the American flag on Enderbury Island and established a colony. This island is under joint jurisdiction of the United States and Great Britain, in accordance with the terms of negotiations completed and published April 6, 1939.

### JARVIS ISLAND

Jarvis Island was supposed to have been discovered by Captain Brown of the English ship *Eliza Francis* in 1821. It was surveyed by the U. S. ship *St. Mary's* in 1857 and again by the U. S. ship *Whipporwill* in 1924. A colony was maintained on Jarvis during the 1870's, it being serviced and the guano removed by the same ships that visited Howland, Baker and Enderbury Islands. It was annexed by Great Britain in 1889 and leased to the Pacific Phosphate Company in London and Melbourne in 1906. The project by that company was of short duration. March 26, 1935 the American flag was raised on Jarvis Island and a colony established by an expedition fostered by the Department of Commerce on the Coast Guard cutter *Itasca*.

During the past year considerable effort has been made to effect an adequate channel through the reef on the west side of Enderbury to facilitate the landing of supplies and stores. The work on this project has been carried out on the past three cruises to the American Equatorial Islands. Although the channel is now



## AMERICAN EQUATORIAL ISLANDS

75 per cent complete much remains to be done. High surf and the presence of numerous large sharks in the surrounding waters seriously hamper the accomplishment. The high surf tends to dislodge the planted chargers of TNT which often break the electric cable. It also necessitates repriming and replanting. It is anticipated this project will be completed within the coming year.

### COLONIZING DEVELOPMENTS

Colonies on the five islands have been maintained with the usual four colonists on each island. Wooden buildings, cleaned and painted, water sheds, water storage tanks are now permanent fixtures. Health and morale among the colonists on all of the islands have been extremely high. The policy of taking only colonists of Hawaiian ancestry has been maintained with the exception of radio operators who are now mostly Caucasian. Improvements of the camp areas, including coral and concrete walks and walls have been constructed and maintained. There are light-houses on all of the islands with the exception of Enderbury which has a daymark easily converted into a lighthouse when desired. The lights are burned on request by the Department of Interior office or the Navy at Honolulu. Canton Light burns continuously. Pan American Airways in July completed an airways beacon in their camp.

### AGRICULTURAL AND KINDRED PROJECTS

In view of the general barrenness of all the islands considerable effort has been made to encourage the growth of trees and shrubbery. The high-acid content of the soil presents the greatest difficulty. In the spring and summer of 1937 ironwood, tour-nifortoa, and coconut palms were planted on Howland, Baker and Jarvis Islands. In general the results of these efforts were disappointing, but for some ironwood on Baker and Howland Islands which with care would reach full size. The coconuts did not develop beyond the sprouting stage due to lack of water and pro-

tection from the winds. In the fall of 1937 a considerable number of small coconut palms were gathered on Palmyra and placed ashore on Jarvis, Baker and Howland, but these met the same fate as the earlier efforts with the exception of two or three palms planted on the lee side of the houses and on Jarvis and watered regularly and making a fair growth. On later trips additional ironwood cuttings, palms, kamani and tour-nifortoa trees were taken to the islands to replace those lost and to encourage the growth of a grove. These at present are doing fairly well. It has been found that the trees required regular watering and protection from the steady prevailing winds. In order to attain any degree of success the transportation of soil or black sand to be used for transplanting will have to be taken regularly to the islands. The careful conservation of fresh water often hinders the agricultural projects. When Canton and Enderbury were colonized in the spring of 1938 trees of various varieties were taken to the islands for further experimentation. The agricultural extension service of the University of Hawaii cooperated fully with the Department of the Interior in fostering the agricultural experiments on these islands. A considerable amount of black sand, prepared soil and fertilizer were left on the islands to experiment with the growth of common vegetables. It was further believed growth could be accomplished when plans were started in ratproof, birdproof and insectproof houses well protected from the wind. By June, 1939 the colonists on Canton had a fair degree of success with tomato plants, melon plants and cucumbers. The plants were vigorous, free from disease and of good color, but were maturing very little fruit which was probably due to the use of too much fertilizer.

### AVIATION

In the first week of August, 1939 the Pan American Airways clipper made the first flight using the new base at Canton as a station for the first time. This flight was success-



## VI. TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

fully accomplished and the ground-work laid for the future airways. The Coast Guard cutter *Taney* departed from Honolulu the first week of October for the final cruise of the calendar year, having on board necessary supplies and replacements for the American Equatorial Islands. On this cruise was Ashley Browne, extension horticulturist of the University of Hawaii who made a complete survey of the agricultural possibilities on all of the American Equatorial Islands, special attention being given to Canton Island. On this cruise, cooperating with Pan American Airways, materials including prepared soil were taken to Canton Island for an extensive project in landscaping and experimentation. Also on board was Lawrence Browne, a representative of the U. S. Weather Bureau, to accompany and service all the equipment, survey the future possibilities of the islands for increased facilities to the

weather stations and to make recommendations for future needs. The colonies at this time were in excellent condition. Morale at all the colonies was exceedingly high, this partly due to the high caliber and personality of the leaders assigned. Few replacements were made this cruise, the personnel of the colonies being practically intact for the coming four months period.

Due to increased weather observations and weather broadcast schedules requested by various interested governmental and commercial departments, two radio men had been placed on Canton Island. With regular aircraft flights scheduled over Pan American routes and other aircraft activities in the Pacific, these islands will become more important than ever before, with their contribution to the prognostication of the general Pacific weather.

## THE DISTRICT OF COLUMBIA

BY W. REED WEST

PROFESSOR, THE GEORGE WASHINGTON UNIVERSITY

### TAXATION

The most important change effected in the District of Columbia by Congress during 1939 was the abolition of the tax upon intangible personal property and the substitution thereof of an income tax. The new law (approved July 26) retains the tax upon tangible personal property, however. A tax of one per cent is levied on the first \$5,000 of taxable income, one and one-half per cent on the next \$5,000, two per cent on the next \$5,000, two and one-half per cent on the next \$5,000, and three per cent on all in excess of \$20,000. Single persons and married persons not living with husband or wife are allowed an exemption of \$1,000; heads of families or married persons living with husband or wife are allowed \$2,500 with a credit of \$400 for each additional dependent. The rate for corporations is fixed at five per cent upon all income from District of Columbia

sources. There is provision for the reciprocal exchange of information with state officials in regard to returns, and by amendment (approved Aug. 7), with officials of the United States. Banks are exempt from the income tax but pay a tax of six per cent of gross earnings. Gas, electric lighting, and telephone companies pay four per cent on gross receipts within the District in addition to the corporate income tax imposed by the District revenue act for 1939. There are special provisions for the taxation of street railroad and insurance companies. The act also makes some changes in the law upon inheritance and estate taxes and includes a gift tax.

The contribution of the Federal Government to the expenses of the District is fixed at \$6,000,000, which is an increase of \$1,000,000 over the appropriation for the fiscal year 1938-39, and the District is allocated a

## THE DISTRICT OF COLUMBIA

share of the fees and fines of the District Court of the United States for the District of Columbia and of the United States Court of Appeals for the District of Columbia in proportion to the contribution of the District to the salaries and expenses of these courts.

The business privilege tax (see *THE AMERICAN YEAR BOOK*, 1937) expired by its own terms on June 30, 1939, and was not renewed.

### APPREHENSION OF FUGITIVES

Under the laws of Maryland and Virginia it has been permissible for officers of the District to continue the pursuit into those states of one suspected of having committed a felony. An act (approved July 26) now permits similar fresh pursuit into the District and arrest by officers of those states. If the arrest is held to be lawful, the person arrested is to be committed to await an extradition warrant by the chief justice of the District Court of the United States for the District of Columbia. "Fresh pursuit" is given a broad definition.

### HEALTH

An act (approved Aug. 11) in regard to communicable and preventable diseases gives to the Commissioners power to make and enforce reasonable rules and regulations necessary to prevent and control the spread of communicable diseases in the District. The old laws of 1897, 1907, 1908, and 1925, based upon the medical knowledge of the times, were specific and detailed. They were sometimes too restrictive and at others did not give sufficient authority for effective control. The new law gives the Commissioners broad powers, and the regulations can be kept abreast of developments in disease prevention.

An act of 1938 (see *THE AMERICAN YEAR BOOK*, 1938) had altered the proceedings in lunacy cases. In 1939, it was found necessary to make certain changes in the act of 1938, the most important of which were intended to relieve congestion in the Gallinger Municipal Hospital by permitting temporary detention in Saint Eliza-

beths Hospital pending action of the Mental Health Commission and the courts after examination by the staff of the Gallinger Hospital (approved Aug. 9). This relieves congestion in the psychopathic ward of Gallinger Hospital, which is not equipped for the handling of violently insane persons.

### STREET LIGHTING

An example of the rigidity of some of the old laws upon the District was the requirement in the law of 1911 that electrical street lights go on at 15 minutes after sunset and remain until 45 minutes before sunrise, with no discretion left with the Commissioners except a provision in an act of 1916 concerning the burning of only part of the lights after one o'clock each night. A new act (approved March 6) gives to the Commissioners authority to determine the hours for the lighting of streets, subject to the limits of the appropriations therefor.

### SALE OF REAL ESTATE

Another example of the present tendency to grant greater powers to the Commissioners is an act (approved Aug. 5) permitting the Commissioners, with the approval of the National Capital Park and Planning Commission, to sell real estate held by the District and no longer needed for public use. The same act grants authority to the Secretary of the Interior, with the approval of the National Capital Park and Planning Commission, to sell real estate owned by the United States within the District of Columbia and under the jurisdiction of the National Park Service, when not needed for public use, provided the amount received is not less than that paid for it by the Government or less than its value as appraised by the Secretary of the Interior.

### SCHOOLS

Research assistants who are qualified to perform specialized work in psychology are needed in a modern school system in the classification of pupils, the analysis of individual

## VI. TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

problems, especially in reading difficulties, and the prescribing of courses and corrective methods. It had been necessary in the District to assign qualified teachers for this work. Under new legislation (approved April 5) research assistants, with the status of teachers, may now be appointed for this work. Other acts affecting the schools require teachers to name beneficiaries to receive retirement deductions in the event of the death of the teacher (approved April 5), and permit a greater latitude in the division of salaries in certain classes between white and colored schools (approved April 5).

### BANKING

An act (approved April 5) was passed for the purpose of affording protection to banks and trust companies. This protection includes permission to refuse payment on checks and other negotiable instruments more than one year old, except when specially instructed; protection in cases of adverse claims to deposits; relief from liability for erroneous payment of forged checks unless notified by the depositor within a year after notification that his vouchers are ready for delivery, or within six months after their return; and the requirement of actual proof of damage to the depositor in order to become liable for an error in non-payment of a check.

An act (approved July 18) amending the law upon foreign building associations operating in the District of Columbia was designed to clear up legal uncertainties as to the rights and obligations of such associations under the law. It is of especial interest to such associations in Maryland doing business in the District. Another act (approved Aug. 5) relieved insolvent building associations from the payment of personal property taxes where such taxes would prevent full payment on the share accounts.

### OTHER LEGISLATION

Hospitals were affected by an act (approved June 30) giving them a lien upon damages collected by patients treated for injuries resulting in such damages, where the injuries are

not covered by the Employees' Compensation Act or the Workmen's Compensation Act. A number of changes (approved Aug. 10) were made in the law upon the regulation and licensing of real-estate brokers (see THE AMERICAN YEAR BOOK, 1937). The provisions for enforcement of the orders of the Public Utilities Commission and the Joint Board (consisting of the Commissioners of the District and the members of the Public Utilities Commission) were clarified and extended (approved April 5). Some changes were made in the law relating to the licensing and control of passenger vehicles for hire (approved April 5). Operators of Federal Government-owned vehicles stationed outside the District were authorized to operate such vehicles on temporary official business in the District without obtaining permits (approved June 20). The margin of permissible error in electric meters was reduced from four per cent to two per cent (approved April 5). The Commissioners were authorized in condemnation proceedings for minor streets and alleys to pay the difference between the damages and the benefits, whereas previously this had not been possible except in the case of major streets (approved June 20). All engineers operating stationary plants in the District were required to be licensed by the District or a state having reciprocity with the District unless they are employed by the United States Government, whereas previously a license by the Steamboat Inspection Service had been accepted (approved July 31). It was made permissible for members of the fire department to become members of unions which make use of the strike, although they may not directly or indirectly engage in a strike (approved July 31). The period for fuel tax refunds was enlarged from 30 to 60 days (approved Aug. 11). The period for investigation in adoption cases was enlarged from 60 to 90 days (approved June 20). Certain restrictions were removed upon the time for holding professional examinations under the Healing Acts Practice Act (approved Aug. 11).

## THE DISTRICT OF COLUMBIA

### GOVERNMENT REORGANIZATION

There has been much discussion upon the subject of a proposed reorganization of the District government. The point of departure for these discussions is the report upon this subject made to Congress by the firm of Griffenhagen & Associates. The recommendations in this report are preceded by the conclusion that "the existing organization has been built around an act adopted over 60 years ago and has obviously grown without plan or system; it is now unbelievably complex, confused, illogical, and cumbersome." The Griffenhagen report proposed an administrative organization in 17 departments in which, with a few exceptions, all administrative functions would be included. Each department would be headed by a single officer, although in some departments there would be also a citizen board with rule-approving, judicial, or advisory functions, and over all departments there would be a single administrator, chosen by the District governing body or by the President on its recommendation. The governing body might consist of the present Commissioners, or preferably a larger commission, but in any case it would have enlarged powers with authority to make and enforce all necessary local regulations. Some functions would still be exercised by Federal agencies, including the General Accounting Office, the Comptroller of the Treasury, the National Capital Park and Planning Commission, Federal courts in the District, and the National Guard. Contractual relations might be established with various Federal agencies.

Following closely this report, Representative Kennedy introduced in the House of Representatives a bill which retained the existing Commissioners but with greatly enlarged powers including the power to levy taxes in accordance with law, and the necessary powers of a local government. Twelve departments were set up under the supervision of an administrator chosen by the Commissioners, with an independent Department of Education under a board as at present constituted, and an independent Department of Libraries under a director and a Board of Libraries.

An alternative draft of a plan of reorganization was drawn up by a number of District officials. This plan called for the retention of the present Commissioners and 11 administrative departments presumably to be under an administrative assistant, appointed by the Commissioners; a "merit system" of civil service, with examinations conducted at cost by the Federal Civil Service Commission in cooperation with the Department of Personnel, and greatly enlarged powers for the Commissioners, although the report was divided upon the question of giving to the Commissioners the power to levy taxes.

It will be noted that this and the Kennedy plans both involve giving greatly enlarged powers to the Commissioners, an appointive body. The year closes with both proposals under fire, particularly from certain groups of District residents who are demanding that any plan of reorganization shall include District suffrage.



# PART THREE

## GOVERNMENTAL FUNCTIONS

### DIVISION VII

#### PUBLIC FINANCE AND TAXATION

#### NATIONAL FINANCE AND THE PUBLIC DEBT

By F. CYRIL JAMES

PRINCIPAL AND VICE-CHANCELLOR OF MCGILL UNIVERSITY

#### GENERAL SUMMARY

During 1939 there was no significant change in Federal fiscal policies to record. As was pointed out in THE AMERICAN YEAR BOOK, 1938, the middle of 1937 may be taken to represent a turning point in the philosophy of governmental spending, the only occasion (since the onset of depression in 1930) on which the United States Government showed definite intention of abandoning its general philosophy of deficit-spending. After two years of steadily improving business activity, the Government made substantial reductions in various kinds of relief and recovery expenditures, so that the deficit was for the moment turned into an actual surplus. Indeed, during the calendar year 1938, the aggregate par-value of outstanding United States securities (excluding special issues which are never publicly offered on the market) actually declined by \$378,000,000!

This is no such pleasant surprise when the record for 1939 is analyzed. During the 12 months ended with June 1938, American business experienced the most catastrophic decline of which there is any record and, as a result, the Federal Government again returned to its former policies of deficit-financing. The only change that 1939 indicates is one of purpose, since the earlier expenditures for relief are, to an appreciable extent, being replaced by equally large expenditures for defence as a result of the outbreak

of the European war. To some people this change in the nature of the appropriations may appear as an improvement since, much as the fact may be regretted, more people are willing to support expenditures for military and naval purposes than would admit the advantage of comparable spending for purposes of relief and recovery. But from the angle of the economist and public financier this argument is of no importance whatever; the significant fact is that governmental expenditures continue to exceed public revenues, so that the aggregate public debt of the United States is still increasing. Moreover, the study of American defences that has resulted from the outbreak of war in Europe tends to indicate that larger (rather than smaller) expenditures will be required for naval and military purposes during the years that lie ahead so that, as the figures in Table I clearly indicate, a further increase in the public debt during the next two years may be expected.

The outbreak of war was also responsible for the other significant development in American public finance during 1939, *viz.*, the temporary increase in the yield on United States obligations. This development, for reasons that are discussed at greater length below, seems to have even less permanent importance than the changes in the nature of governmental expenditure; so the whole picture at the end of 1939 is remarkably

# NATIONAL FINANCE AND THE PUBLIC DEBT

TABLE I

## ACTUAL AND ESTIMATED BUDGETS OF THE UNITED STATES GOVERNMENT FOR EACH FISCAL YEAR

(1932 to 1941 Inclusive)

(Classifications include expenditures from both general and emergency funds)

(in millions of dollars)

Receipts	Estimated		Actual							
	1941	1940	1939	1938	1937	1936	1935	1934	1933	1932
Internal revenue:										
Income tax.....	2,302	1,953	2,182	2,635	2,158	1,427	1,099	818	746	1,057
Tax on unjust enrichment.....	4	6	7	6	6	...	...	...	...	...
Miscellaneous internal revenue.....	2,482	2,356	2,232	2,280	2,181	2,009	1,657	1,470	858	504
Taxes under Social Security Act.....	726	703	631	604	252	...	...	...	...	...
Taxes upon carriers and their employes	135	124	109	150	...	...	...	...	...	...
Processing tax on farm products.....	...	...	...	...	...	77	521	353	...	...
Railroad Unemployment Insurance Act..	7	5	...	...	...	...	...	...	...	...
Customs.....	273	283	319	359	486	387	343	313	251	328
Miscellaneous receipts.....	221	273	187	208	211	216	180	162	225	117
Total receipts.....	6,150	5,703	5,667	6,242	5,294	4,116	3,800	3,116	2,080	2,006
Expenditures										
Ordinary expenditures:										
Legislative, Judicial and Civil establishments:										
Legislative establishment.....	23	22	22	21	21	22	18	16	16	19
Department of Agriculture.....	143	188	192	134	149	119	71	63	66	94
Department of Commerce.....	34	38	20	30	33	37	33	25	33	39
Department of the Interior.....	70	103	137	92	73	62	65	45	54	61
Department of Justice.....	39	44	37	41	37	38	33	31	42	48
Department of Labor.....	22	20	15	26	31	27	18	12	14	15
Postoffice Department (deficiency)...	57	38	40	47	39	86	64	64	117	203
Department of State.....	19	21	17	17	17	17	16	11	15	17
Treasury Department.....	164	166	159	156	155	145	123	111	132	159
War Department (non-military).....	46	49	50	52	54	47	50	44	43	47
District of Columbia (United States share).....	6	6	5	5	5	6	5	6	8	10
Independent offices and commissions.....	353	321	247	91	75	69	66	30	44	44
Supplemental items.....	14	13	8	...	...	...	...	...	...	...
Total, legislative, judicial and civil.....	990	1,029	949	712	689	675	562	458	584	756
National defense.....	1,539	1,359	1,140	980	895	880	663	494	633	664
Veterans' pensions and benefits.....	561	550	550	572	1,128	2,348	604	554	849	973
Interest on the public debt.....	1,100	1,050	941	926	866	749	821	757	689	599
Refunds on receipts.....	71	69	68	100	56	54	77	64	70	101
Agricultural adjustment program.....	862	947	787	362	527	533	712	289	...	...
Social Security.....	437	378	347	678	448	28	...	...	...	...
Railroad retirement.....	133	122	107	145	6	...	...	...	...	...
Government employes retirement funds.	93	87	75	73	47	41	21	21	21	21
Other (commodity credit losses, settlement of war claims, etc.).....	...	...	...	98	1	1	*3	14	5	49
Total, national defense, etc.....	4,796	4,562	4,015	3,934	3,974	4,634	2,895	2,193	2,267	2,407
Total, ordinary expenditures....	5,786	5,591	4,964	4,646	4,663	5,309	3,457	2,651	2,851	3,163

\* Excess of credits: deduct.

similar in its broad outlines to that which existed 12 months earlier. Cynically, one might suggest that nothing has been changed but the labels!

### REVENUE AND TAXATION

The aggregate receipts of the Treasury during the fiscal year that ended in 1939 were substantially below those for the preceding year, but consider-

# VII. PUBLIC FINANCE AND TAXATION

(Table continued from p. 231)	Estimated		Actual							
	1941	1940	1939	1938	1937	1936	1935	1934	1933	1932
Extraordinary expenditures:										
Supplemental item:										
New national defense program.....	300	160	...	...	...	...	...	...	...	...
Public works:										
Public highways.....	230	244	206	237	351	244	317	268	178	210
Tennessee Valley Authority.....	40	41	41	42	42	49	36	11	...	...
Reclamation.....	†	†	†	65	52	50	41	25	25	26
Rivers and harbors, improvement..	223	215	155	98	148	150	133	76	51	55
Flood control.....				61	45	36	31	41	34	28
Public buildings.....	78	118	65	77	76	68	58	79	106	86
Grants to public bodies, including administration.....	†	†	†	190	273	234	49	19	...	...
Other.....	69	71	40	110	115	83	101	106	78	94
Total.....	940	849	507	880	1,102	914	766	625	472	499
Unemployment relief:										
Direct relief.....	†	†	†	154	184	588	1,916	716	351	...
Work relief (WPA, etc.).....	123	1,809	2,612	1,516	1,957	1,298	11	805	...	...
Civilian Conservation Corps.....	308	380	368	326	386	486	436	332	9	...
Total.....	431	2,189	2,980	1,996	2,527	2,372	2,363	1,853	360	...
Loans, subscriptions to stock, etc. (net).....	42	370	256	104	150	71	424	882	181	873
Supplemental items.....	1,225	100	...	...	...	...	...	...	...	...
Total, extraordinary expenditures.....	2,638	3,508	3,743	2,980	3,779	3,357	3,553	3,360	1,013	1,372
Total, expenditures, exclusive of debit retirement.....	8,424	9,099	8,707	7,626	8,442	8,666	7,010	6,011	3,864	4,535
Net deficit.....	2,176	3,933	3,542	1,384	3,148	4,550	3,210	2,895	1,784	2,529
Increase in gross public debt.....	1,716	2,782	3,280	740	2,647	5,077	1,648	4,514	3,052	2,686
Gross public debt at the end of each fiscal year.....	44,943	43,227	40,445	37,165	36,425	33,778	28,701	27,053	22,539	19,487

† Not separately listed.

ably larger than the receipts of any previous year since 1932. Taking the calendar year, the same general conclusion emerges, although in this case both 1937 and 1938 show somewhat higher aggregates.

This decline in 1939 was due to the falling off in receipts from the income tax which was naturally levied on the low incomes received by corporations and individuals during the calendar year 1938 when business activity was comparatively depressed. It should be remembered, however, that the higher level of business activity during the last six months of 1939 will be reflected in the income tax collections of 1940.

The yields of social security taxes and miscellaneous internal revenue were somewhat higher in 1939 than

they had been during the previous calendar year, again reflecting the improvement of business conditions, but careful analysis of the figures offered in Table II will show that the Treasury has not yet reaped any considerable advantage from the "war boom" which excited so much discussion throughout the United States during the closing quarter of 1939.

Although the reference is to the fiscal year that ended in June, rather than to the calendar year, it may be of interest to point out that, during this first full year of the operation of the Sugar Act of 1937, the Treasury collected an additional \$35,000,000 in the form of a sugar tax. This is but one more of the numerous specific imposts that have resulted from special legislation during the last few years;

## NATIONAL FINANCE AND THE PUBLIC DEBT

although the list of these special taxes makes an imposing appearance, it must be remembered that the major portion of the public revenue is derived from a very small class of levies. During the fiscal year that ended June 30, 1939, the Treasury collected 86 per cent of its ordinary receipts from the following 12 tax sources, which are stated in the order of their importance: current corporate income taxes, current individual income taxes, social security taxes, tobacco duties, estate duties, distilled spirits and wine duties, customs duties, fermented malt liquor taxes, gasoline taxes, capital stock taxes, taxes on carriers and their employees, and taxes on automobiles, trucks, tires, and accessories.

### FEDERAL EXPENDITURES

Total expenditures of the Federal Government during the calendar year 1939 were larger than for any similar period since 1937, despite the fact that income was smaller.

After making allowance for debt retirements and transfers to trust accounts, Treasury expenditures showed an increase of about \$800,000,000 in 1939 over the previous calendar year. Outlays for the Agricultural Adjustment program amounting to \$970,000,000 (compared with \$587,000,000 in 1938) were among the most important factors of increase, while expenditures on national defense rose from \$1,102,000,000 to \$1,277,000,000. Normal departmental expenses were also increased substantially; in fact, the only significant reduction was due to a diminution of \$170,000,000 in the expenditure on both the Works Progress Administration and the National Youth Administration.

On a quarterly basis, expenditures were at their highest point during the period from April to June, when large disbursements were made on account of interest payments and of the Agricultural Adjustment Administration. Expenditures during this quarter exceeded \$2,400,000,000. During the first, third, and fourth quarters of the year, expenditures averaged around \$2,100,000,000, a figure approximately

the same as the average quarterly expenditure during the last nine months of 1938.

As a result of this continuing expenditure, in the face of diminished revenue, the deficit in budget accounts, after allowing for transfers to trust accounts and debt retirement, amounted to \$3,200,000,000 during the calendar year 1939, an amount considerably larger than the deficit in either of the two preceding years and slightly larger than that which occurred in 1936. This budgetary deficit was, however, offset to a larger extent than in previous years by aggregate net receipts exceeding \$1,000,000,000 that came into various trust funds and other special accounts of the Treasury. This growth in net receipts outside the regular budget was due in large part to the repayment by the Reconstruction Finance Corporation of some of its obligations to the Treasury, the repayment being made possible by the sale to the public of R.F.C. securities bearing the guarantee of the United States Government. In effect, therefore, the whole transaction has no more than a book-keeping significance, since the funds were obtained by borrowing from the general public by the sale of securities on which the United States is ultimately liable. For the rest of the deficit, resort was had to direct loans amounting in all to \$1,500,000,000 during the course of the year, while the Treasury's working balance was also reduced by \$680,000,000 in the same period.

### GROWTH OF THE PUBLIC DEBT

Since the accounts of the Treasury have shown a deficit for every month since March 1938, the growth of the public debt that is demonstrated by the figures in Table II is not surprising. But, even though the statistics regarding the size of this debt seem to have that quality of inevitable progress that more worthily characterized the records of economic activity during the nineteenth century, it is still important to realize that the aggregate public debt of the United States now approximates \$42,000,000,000, a figure almost twice as large as



# VII. PUBLIC FINANCE AND TAXATION

TABLE II  
GROWTH OF THE PUBLIC DEBT

(in millions of dollars  
at end of each month)

	Total Receipts	Total Expendi- tures	Surplus (+) or Deficit (-)	Trust Account Receipts (+) or Expendi- tures (-)	General Fund Balance	Gross Debt
1937						
January.....	284	631	-348	+ 72	1,726	34,501
February.....	275	553	-279	- 7	1,539	34,600
March.....	1,012	754	+257	- 98	1,826	34,727
April.....	363	708	-345	+ 8	1,702	34,939
May.....	335	552	-217	- 3	1,754	35,211
June.....	868	1,300	-432	+ 20	2,553	36,425
July.....	409	659	-249	+ 44	2,639	36,716
August.....	453	556	-103	+ 37	2,902	37,045
September....	788	680	+108	+ 20	2,860	36,875
October.....	333	606	-283	+ 18	2,676	36,956
November....	327	494	-167	- 37	2,608	37,094
December....	866	678	+188	- 11	2,973	37,280
1938						
January.....	335	533	-198	-	2,950	37,453
February.....	349	515	-166	+ 11	2,975	37,633
March.....	959	748	+211	+ 31	3,140	37,557
April.....	273	642	-369	- 36	2,689	37,511
May.....	375	568	-193	+158	2,567	37,423
June.....	774	930	-156	+ 63	2,216	37,165
July.....	311	763	-451	+325	2,116	37,192
August.....	487	683	-195	- 63	2,260	37,594
September....	711	751	- 40	- 41	2,978	38,394
October.....	332	769	-437	- 3	2,569	38,424
November....	382	678	-296	- 6	2,447	38,604
December....	704	862	-157	- 31	3,083	39,428
1939						
January.....	308	693	-385	+ 30	2,932	39,632
February.....	417	662	-245	+428	3,342	39,859
March.....	737	870	-132	+ 52	3,388	39,986
April.....	268	785	-517	+ 93	3,042	40,064
May.....	397	744	-348	+ 89	2,923	40,283
June.....	613	951	-339	+ 95	2,837	40,441
July.....	308	807	-499	-113	2,446	40,663
August.....	420	822	-402	- 44	2,230	40,893
September....	719	784	- 65	+ 46	2,177	40,859
October.....	322	764	-442	- 1	1,913	41,037
November....	407	691	-284	+267	2,166	41,305
December....	569	889	-320	+ 15	2,476	41,943

that which staggered the nation at the end of the World War. At the end of 1941 the estimated debt will amount to three times the magnitude of the American national debt at the time of the stock market crisis of 1929.

During 1939, the Treasury offered for sale on the market some \$1,380,000,000 of direct obligations of the United States, a figure that excludes \$120,000,000 of publicly offered issues of Treasury bonds sold directly to Treasury trust and investment accounts. The final result of these sales upon the security structure of the na-

tional debt is shown by the figures in Table III.

About \$770,000,000 of the public sales represented United States savings bonds which were issued throughout the year, while the remainder consisted of an increase, during October and November, of \$150,000,000 in the amount of Treasury bills outstanding together with a public offering for cash in December of 2 per cent Treasury bonds to the amount of \$520,000,000. These bonds are due to mature in 1948-50. On the other hand, some \$60,000,000 of maturing Treasury notes were paid off in cash.

## NATIONAL FINANCE AND THE PUBLIC DEBT

In the group of obligations of Federal agencies, which are guaranteed by the United States Government, there occurred an increase of \$710,000,000, largely owing to the sale of securities by the Reconstruction Finance Corporation.

New cash raised by the sale in the open market of direct and guaranteed obligations, excluding United States Savings bonds, aggregated \$1,320,000,000 during the calendar year 1939, as compared with \$1,180,000,000 in 1938. Moreover, in addition to these new issues for cash, the Treasury refunded its note maturities from June 1939 through March 1940. These refunding operations included offerings of both bonds and notes in exchange for June 1939 and March 1940 note maturities, while notes maturing in September and December 1939 were refunded entirely in exchange for new notes. A total of \$3,500,000,000 of maturing notes was turned in, while the holders received in exchange \$2,200,000,000 of bonds and \$1,300,000,000 of new notes.

The increase in bonds outstanding and the further decrease in the volume of Treasury notes, which occurred during the calendar year 1939, has further lengthened the average maturity of the national debt. It must be remembered, however, that this tendency is, in part, offset by the fact that the maturity dates of the bonds that were issued some years ago are gradually approaching. Nevertheless, if we look at the aggregate figures of direct debt, the dollar amount of debt maturing within a period of five years has been comparatively stable since 1935; the significant increase in national debt has occurred in the form of obligations that mature more than five years hence.

The new issues of guaranteed obligations of Federal agencies seem to offer a direct contrast to the practices of the Treasury in this matter, since most recent issues have consisted of short-term securities. Sales of new issues for cash amounted to approxi-

**TABLE III**  
**VOLUME AND KIND OF THE OBLIGATIONS OF THE U. S.**  
**GOVERNMENT OF VARIOUS DATES**  
(in millions of dollars)

Type of Obligation	June 30 1934	June 30 1936	June 30 1937	June 30 1938	Dec. 31 1938	June 30 1939	Dec. 31 1939
<b>Direct Obligations</b>							
Bonds:							
Pre-war.....	753	79	79	79	79	79	196
Treasury.....	15,679	17,168	19,936	21,846	24,005	25,218	26,881
U. S. Savings.....		316	800	1,238	1,441	1,868	2,209
Treasury Notes.....	6,653	11,381	10,617	9,147	8,496	7,243	6,203
Treasury Bills.....	1,404	2,354	2,303	1,154	1,306	1,308	1,455
Adjusted Service Issues.....	118	1,071	926	868	827	839	771
Social Security Issues.....		19	579	1,601	2,002	2,511	2,136
Other Obligations bearing interest.....	356	601	560	644	743	820	1,595
Total Interest Bearing Debt....	*26,480	32,989	35,800	36,576	38,899	39,886	41,446
Matured Debt.....	54	169	119	141	101	142	87
Other Obligations.....	518	620	506	447	427	411	410
<b>Total Direct Obligations.....</b>	<b>27,053</b>	<b>33,779</b>	<b>36,425</b>	<b>37,165</b>	<b>39,427</b>	<b>40,440</b>	<b>41,943</b>
<b>Guaranteed Obligations</b>							
Federal Farm Mortgage Corp.....	312	1,422	1,422	1,410	1,388	1,379	†1,269
Home Owners' Loan Corp.....	134	3,014	2,987	2,937	2,888	2,928	†2,817
Reconstruction Finance Corp.....	235	252	255	299	509	820	†1,096
Commodity Credit Corp.....				206	206	206	†407
<b>Total Guaranteed Obligations.....</b>	<b>681</b>	<b>4,718</b>	<b>4,665</b>	<b>4,853</b>	<b>4,992</b>	<b>5,450</b>	<b>5,700</b>

\* Includes certificates of indebtedness, not shown separately, amounting to \$1,517 million.

† Figures as of November 30, 1939.

## VII. PUBLIC FINANCE AND TAXATION

mately \$1,000,000,000 made by the Reconstruction Finance Corporation, the Commodity Credit Corporation, the United States Housing Authority, and the Home Owners Loan Corporation. Refunding operations were carried out by the Home Owners Loan Corporation to the extent of \$1,200,000,000 to replace issues callable or maturing during the year, and \$1,000,000,000 of this total were replaced by bonds maturing in one, two, or eight years while the remaining \$200,000,000 were redeemed in cash. In addition \$200,000,000 of notes of the Commodity Credit Corporation, maturing in November, were refunded by an issue of new two-year notes. About \$100,000,000 of Federal Farm Mortgage Corporation bonds were retired during the course of the year.

### INTEREST RATES AND YIELDS

Once again, as in the analysis presented in *THE AMERICAN YEAR BOOK*, 1938, it is necessary to call attention to the phenomenally low yield that government obligations offer to investors in the United States. This aspect of the situation acquired additional significance during 1939, since many earlier discussions of interest rates within the American money market had suggested that the low levels attained during the years from 1936 to 1938 were chiefly due to the combination of business quiescence coupled with easy money policies on the part of the Treasury and the Federal Reserve System. Effective revival of business activity, or the outbreak of war, they contended, would bring about a rapid rise in interest rates to levels more nearly approaching those that prevailed prior to 1929.

To those who remembered the conditions that existed within the United States during the troublous autumn months of 1914, the contention did not seem unreasonable, but the figures presented in Tables IV, V, and VI suggest that the influence of deliberately conducted easy money policies may be greater than is generally believed in circumstances such as those which now exist. It is platitudinous to suggest that not enough is yet known about the new monetary sys-

tem of the United States to enable one to predict in any accurate fashion its reaction to changing conditions, but the platitude is so important that it must be borne in mind continuously.

TABLE IV  
AVERAGE YIELD ON LONG-TERM  
U. S. BONDS

	1937	1938	1939
January.....	2.47	2.65	2.47
February.....	2.46	2.64	2.44
March.....	2.60	2.64	2.34
April.....	2.80	2.62	2.30
May.....	2.76	2.51	2.17
June.....	2.76	2.52	2.13
July.....	2.72	2.52	2.16
August.....	2.72	2.51	2.21
September.....	2.77	2.58	2.65
October.....	2.76	2.48	2.60
November.....	2.71	2.50	2.46
December.....	2.67	2.49	2.35

TABLE V  
AVERAGE PRICE OF LONG-TERM  
U. S. BONDS

	1937	1938	1939
January.....	104.6	102.3	104.4
February.....	104.6	102.4	104.8
March.....	102.9	102.5	106.0
April.....	100.3	102.7	106.6
May.....	100.7	104.0	108.3
June.....	100.7	103.9	109.1
July.....	101.3	103.8	108.9
August.....	101.2	104.0	108.2
September.....	100.6	103.0	101.9
October.....	100.7	104.3	102.6
November.....	101.3	104.0	104.6
December.....	101.9	104.1	105.9

In the admirable summary of developments during the year which is issued by the Board of Governors of the Federal Reserve System, the story is simply told. Under the pressure of heavy demand from banks and other investors, the prices of United States government bonds advanced substantially during the first half of 1939 to the highest levels on record. In July and August, as a result of growing disturbance and uncertainty in the field of international politics at a time when the domestic market was none too strong, prices moved irregularly and, when hostili-

# NATIONAL FINANCE AND THE PUBLIC DEBT

TABLE VI

## AVERAGE YIELD ON SHORT-TERM OBLIGATIONS OF THE UNITED STATES GOVERNMENT

	1937		1938		1939	
	New Issues of Treasury Bills	3-5 Year Treasury Notes	New Issues of Treasury Bills	3-5 Year Treasury Notes	New Issues of Treasury Bills	3-5 Year Treasury Notes
January....	.36	1.18	.10	1.13	.002	.65
February...	.38	1.22	.08	1.09	.004	.63
March.....	.58	1.42	.07	1.01	.005	.51
April.....	.70	1.59	.08	.94	.019	.50
May.....	.65	1.48	.03	.77	.006	.42
June.....	.58	1.54	.02	.67	.006	.39
July.....	.49	1.44	.05	.70	.017	.45
August.....	.52	1.45	.05	.71	.046	.48
September..	.53	1.50	.10	.82	.102	1.07
October....	.41	1.42	.02	.68	.028	.77
November..	.15	1.31	.02	.71	.018	.64
December..	.10	1.27	.01	.67	.015	.55

ties actually commenced, prices broke sharply in the bond market. The lowest point was reached on Sept. 21 when long-term United States bonds showed a decline of nine points from the peak that had been attained on June 5.

During this decline, Federal Reserve Bank holdings of United States government obligations were increased by about \$475,000,000 in pursuance of the System's policy of endeavouring to "maintain orderly conditions in the bond market." But the crisis was of short duration. Bond prices advanced rapidly during the closing months of the year and, on Dec. 30, had recovered about seven points of their previous loss. In this period, the Federal Reserve System sold some \$70,000,000 of government bonds and notes, at the same time allowing their holdings of bills to run off without replacement.

At the peak level of prices on June 5, the yield on the longest-term Treasury bond outstanding had fallen to 2.26 per cent. At the lowest price reached during the September slump in the market, this yield increased to 2.78 per cent. But by the end of the year the yield had again fallen to 2.35 per cent, a level well below that which prevailed at the beginning of 1939. Much the same story is true of the return derived from the holding of short-term government obliga-

tions. Yields on three- to five-year Treasury notes attained a low of 0.35 per cent on June 5 but, despite a substantial rise during September, the average for December was lower than the yield at any time prior to March 1939. In the case of new issues of Treasury bills, the yield at the end of the year was again down to one-eighth of one per cent.

In the light of this experience, the study of the probable future trend of interest rates within the United States acquires a new significance and, although no final prophecy can be attempted, it is important to draw attention to some of the factors which tend to prevent any substantial increase in rates during the immediate future. As a result of the war itself, the American money market has become even more effectively insulated from the rest of the world than it was prior to last September. Foreign exchange controls of one kind or another have been developed by all the belligerent countries, as well as by many neutrals, and severe restrictions have been imposed upon international movements of goods and securities. Moreover, under the terms of the Neutrality Act and the Johnson Act, no merchants or bankers within the United States may extend credit to the belligerent governments or their agents, so that the aggregate potential magnitude of Anglo-French purchases



## VII. PUBLIC FINANCE AND TAXATION

in the American market can not exceed the eight or nine billion dollars of resources that those countries now own in the United States, except to the extent to which new gold importations into this country provide new dollar balances. In the light of all the circumstances it would appear probable that such gold importations will be relied upon to provide most of the funds immediately needed to finance Allied purchases, in which case the United States will continue to receive a steady stream of the yellow metal amounting to between \$600,000,000 and \$1,000,000,000 each year.

Such an inflow will naturally tend, other things being equal, to make the American money market even easier, and it seems highly probable that the Treasury, with \$42,000,000,000 of its obligations outstanding, will continue to encourage easy money policies. In addition, it must be remembered that the prospect of a Presidential election in 1940 would of itself tend to discourage any policy which imposed serious losses on those who had purchased government bonds.

All of these things point to the continuance, in the immediate future, of interest rates at approximately the present level, and there are only two significant factors which might operate to raise these rates. If the economic developments in foreign countries should create an inflationary psychology in the United States, encouraging people to use their idle funds as rapidly as possible for the purchase of commodities, interest rates might be expected to advance rapidly under the stimulus of rising commodity prices. Again, if hostilities should become so violent that an emergency arose in which England and France were compelled to expand their purchases within the United States to an extent much beyond anything conceived at present, the sudden stimulation of business activity would undoubtedly result in rising interest rates. Neither of these things appear to be within the realm of probability during the opening weeks of 1940, and it is unlikely that either of them would develop so suddenly

that intelligent investors would be unaware of the change in circumstances before interest rates themselves showed any substantial change.

### DISTRIBUTION OF GOVERNMENT OBLIGATIONS

This analysis of interest rates and yields acquires a deep interest for every member of the community when we turn our attention to the present distribution of United States government obligations among types of investors. Table VII (next page) shows that two-thirds of the national debt is at present in the hands of financial and fiduciary bodies—institutions vital to the continuing stability of the United States. Even if we exclude governmental agencies and trust funds from the list of holders on the assumption that a governmental agency might reasonably expect to be protected by the Treasury against any loss that it might otherwise incur as a result of a fall in the market price of government bonds, it is obvious that \$20,000,000,000, or one-half of the national debt, is now in the hands of banks and insurance companies which might be seriously embarrassed by any decline in the value of this section of their portfolio.

If we exclude from consideration the steady growth in the holdings of governmental agencies, a growth arising out of the operations of legislation that has already been discussed on several occasions, the most interesting development that occurred during 1939 was the steady increase in the holdings of governmental obligations on the part of the life insurance companies. Total holdings of this group increased by considerably more than \$1,000,000,000 during the course of the calendar year, so that, in spite of the increase in the aggregate amount of the debt, life insurance companies now hold rather more than one-eighth of the total.

In the case of all commercial banks in the United States, the aggregate holdings of United States government obligations on Dec. 30, 1939, were estimated at \$16,200,000,000 by the Board of Governors of the Federal Reserve System. This represented an

# NATIONAL FINANCE AND THE PUBLIC DEBT

TABLE VII

## DISTRIBUTION OF UNITED STATES OBLIGATIONS, DIRECT AND FULLY GUARANTEED, BY TYPES OF INVESTORS

(Amounts in Millions of Dollars)

	June 30, 1930		June 30, 1935		June 30, 1938		June 30, 1939	
	Amount	Per Cent	Amount	Per Cent	Amount	Per Cent	Amount	Per Cent
Obligations Outstanding.....	15,138	100.0	31,033	100.0	38,316	100.0	39,892	100.0
Holdings of:								
Member Banks								
New York City.....	1,147	7.6	3,809	12.3	3,740	9.8	3,360	8.4
Other reserve cities.....	1,686	11.1	5,136	16.6	5,639	14.7	5,142	12.9
Country banks.....	1,229	8.1	2,484	8.0	2,964	7.7	2,444	6.1
Non-member Banks*.....	1,436	9.5	2,829	9.1	4,382	11.4	4,500	11.3
Total, Commercial Banks.....	5,498	36.3	14,258	46.0	16,725	43.6	15,446	38.7
Federal Reserve Banks.....	591	3.9	2,433	7.8	2,564	6.7	2,551	6.4
U. S. Government Agencies.....	196	1.3	1,344	4.3	2,098	5.5	5,613	14.1
Life Insurance Companies.....	250	1.7	1,857	6.0	3,942	10.3	5,075	12.7
Total, Financial Agencies.....	6,535	43.2	19,892	64.1	25,329	66.1	28,690	71.9
Others.....	8,603	56.8	11,141	35.9	12,987	33.9	11,202	28.1

\* Figures include savings banks and are partly estimated.

increase of about \$2,000,000,000 since the summer of 1938.

Most of the changes in bank holdings of United States government securities in recent years have been at city banks. New York City banks increased their holdings of Treasury bonds during the first half of 1939, partly by receiving them in exchange for maturing notes but also as a result of additional purchases. In the second half of the year, when Federal Reserve bank holdings of Treasury bills were declining, New York City banks obtained additional amounts of bills. They also purchased guaranteed obligations of Federal agencies continuously throughout the year, so that total government security holdings of member banks in New York City showed a growth of about \$1,000,000,000 during the calendar year 1939, surpassing by a substantial margin the previous peak in 1936.

At banks in other reserve cities, the holdings of government obligations fluctuated around a level approximately equal to that with which they began the year. Increases in Treasury bond holdings and additions to guaranteed obligations exceeded reductions in Treasury notes by almost \$300,000,000, but most of this increase

occurred, at the very end of the year, during the week ended Dec. 27. Country bank holdings can not be adequately described since figures are not yet available for the last quarter of the year. During the first nine months their holdings of direct obligations declined by about \$250,000,000, while guaranteed obligations increased by approximately \$100,000,000.

### ANALYSIS OF FISCAL POLICY

The brief analysis of fiscal policy that was presented in the last previous issue of THE AMERICAN YEAR BOOK was conceived in times of world peace, and devoted itself to an appraisal of President Roosevelt's newly-expressed philosophy. Even in those circumstances it seemed apparent that an indefinite continuance of policies of deficit-spending could not contribute to the creation of a sound monetary system and a satisfactory economy, since there must inevitably come a day of crisis in which the structure will collapse under the accumulated strain.

Today it is even more important that this aspect of the situation should be clearly realized. War, as Napoleon epigrammatically pointed out, is expensive, and every country

## VII. PUBLIC FINANCE AND TAXATION

is today enlarging its national debt at an incredibly rapid rate for the purpose of supporting its armies in the field or for the purpose of increasing its military strength against that future day in which it fears that it may be called upon to fight. Naturally, in this place, any extended discussion of the vexed problems of neutrality and national defence can not be entered upon, but it may be suggested that, from the angle of the economist, national debts that result from armaments are no more comfortable to bear than debts that result from expenditure on relief or any other activity. A deficit is a deficit, no matter for what laudable purpose it may have been incurred.

At the moment there is no reason to expect that the size of the national debt will create acute difficulties within the United States, and nobody has yet been able to suggest with any confidence the absolute maximum of the burden which the country's economy can carry. Perhaps too much of Macaulay's oft-quoted statements for our own good have been heard but, in any case, the situation of countries like Great Britain and France is at present much more uncomfortable (from a purely fiscal angle) than that of the United States. If there is real danger, it is suggested the crisis will occur on the other side of the Atlan-

tic first, so that America will have adequate warning.

That philosophy is specious, but it is unsound. Financial crises can travel across national frontiers—even oceans—with incredible rapidity. But, quite apart from the ultimate danger of present philosophies, there is a principle involved. Deficit-financing does not permit of escape from the real limitations of national income. Any increase in governmental expenditure must result in a direct utilization of a larger quantity of goods and services, no matter how that expenditure is financed, and if a situation has been reached in which government is to assume financial responsibility for wide areas of economic and social life, it should frankly face that responsibility and raise the necessary funds by means of taxation. The contributions of the United States to the restoration of western civilization at the end of the present war should be very large, since it will have power and prestige sufficient to ensure the acceptance of any reasonable proposal that it brings forward. Might it not be of enduring importance to the world, if the United States should offer, among other things, the example of a country in which fiscal policy and monetary policy were integrated on principles that gave promise of enduring stability and soundness?

### STATE FINANCES

BY CATHERINE G. RUGGLES

INSTRUCTOR, UNIVERSITY OF ILLINOIS

#### EXPENDITURES

The expenditures of state governments for operation and maintenance increased 73 per cent between 1932 and 1937, the latest years for which comparable figures are available. The expenditures shown in Table 1 include apportionments made to minor civil divisions. Schools accounted for the largest part of expenditures in 1932, but by 1937 expenditures for charities, hospitals, and corrections were more important. There was an increase in the amount

spent for every purpose except health and sanitation and recreation, but because of the tremendous growth of expenditures for relief, expenditures for every purpose other than charities, hospitals, and corrections were a smaller proportion of the total in 1937 than in 1932, with the sole exception of expenditures for highways. Expenditures for schools yielded the first place of importance to expenditures for charities, hospitals, and corrections in 1937, but in both 1937 and 1932 expenditures for highways held

## STATE FINANCES

third place and those for general government fourth place.

The great increase in expenditures for relief are reflected also in the changes in the percentage distribution of total expenditures, as can be seen in Table 2. Expenditures for the operation and maintenance of general departments were much more im-

portant in 1937 than in 1932, while those for outlays were much less important. In spite of the growth of state debt in the intervening years, however, payments for interest were a smaller proportion of total expenditures in 1937 than in 1932, mainly because of the lower rates of interest on state bonds in 1937.

TABLE 1  
**EXPENDITURES FOR MAINTENANCE AND OPERATION**

	1937		1932	
	Amount (000 omitted)	Per Cent Distribu- tion	Amount (000 omitted)	Per Cent Distribu- tion
General government.....	\$150,970	5.8	\$123,333	8.4
Protection to person and property.....	106,055	4.1	86,875	5.8
Highways.....	436,080	16.7	235,690	15.9
Health and sanitation.....	36,288	1.4	37,292	2.5
Charities, hospitals, and corrections.....	860,361	33.0	274,920	18.4
Schools.....	821,984	31.6	602,065	39.4
Libraries.....	2,455	.1	2,405	.2
Recreation.....	6,815	.3	8,054	.6
Development and conservation of natural resources.....	77,942	3.0	72,965	4.8
Miscellaneous.....	102,927	4.0	57,794	4.0
Total.....	\$2,601,887	100.0	\$1,501,393	100.0

TABLE 2  
**PERCENTAGE DISTRIBUTION OF  
TOTAL EXPENDITURES**

	1937	1932
Operation and maintenance of general departments.....	75.8	60.2
Interest.....	3.6	4.5
Outlays.....	20.6	35.3
Total.....	100.0	100.0

### REVENUE

The revenue of state governments practically doubled between 1932 and 1937. The increase in revenue on a per capita basis was almost as great—\$31.69 in 1937 compared with \$17.83 in 1932. Such an increase was necessary as a result of the tremendous growth of state expenditures.

The relative importance of the various sources of revenue in 1937 and 1932 is shown in Table 3. Taxes furnished about the same proportion of revenue in both years. Among

the non-tax sources revenue grants-in-aid and the earnings of public service enterprises have become relatively more important. Such a condition is, of course, to be expected in view of the developments of recent years.

There has been a change, also, in the relative importance of various taxes. A glance at Table 3 will indicate that, while property taxes were yielding slightly more revenue in 1937 than in 1932, they were a much less important source of revenue in the later year. Inheritance taxes were yielding only slightly less revenue in 1937, but they, too, were relatively less important. Income taxes and other taxes, however, increased both in total amount and in relative importance. The increase in income taxes is due to higher rates of taxation and to the use of the income tax by a larger number of states. The increase in other taxes is to be accounted for by gasoline taxes and general sales taxes, both of them de-



## VII. PUBLIC FINANCE AND TAXATION

velopments of the depression and of the search for new sources of revenue. During 1937 the gasoline tax yielded the largest amount of revenue, the general sales tax yielded the next largest amount, and the property tax held third place.

the laws relating to exemptions from the property tax. Bonds of the state housing authority were exempted in Georgia, and a certain amount of exemption was granted to housing projects in Idaho, New Mexico, and New York. In South Dakota new struc-

TABLE 3  
SOURCES OF REVENUE

Source of Revenue	1937		1932	
	Amount (000 omitted)	Per Cent Distribution	Amount (000 omitted)	Per Cent Distribution
Total Taxes.....	\$3,074,321	75.6	\$1,641,850	74.3
Property.....	373,397	9.2	323,477	14.7
Income (Personal).....	158,619	3.9	47,852	2.1
Inheritance and estate.....	114,903	2.8	143,959	6.5
Poll.....	4,654	.1	5,321	.2
Other.....	2,422,748	59.6	1,121,241	50.8
Nontaxes.....	991,237	24.4	566,085	25.7
Special assessments.....	2,843	.1	26,060	1.2
Grants-in-aid.....	586,270	14.4	249,282	11.3
Earnings of general departments.....	181,713	4.5	154,701	7.0
Earnings of public service enterprises.....	50,794	1.2	10,179	.5
Other.....	169,617	4.2	125,863	5.7
Total.....	\$4,065,557	100.0	\$2,207,935	100.0

Table 4 shows the total amount of revenue and the per capita amount received from each source, and the relative importance of each source.

Although the figures presented here are for 1937, the latest year for which figures are available, the discussion that follows will be devoted to changes in taxation during 1939.

### PROPERTY TAXES

About two thirds of the states still levy a property tax for state purposes. A number of changes were made in 1939 in the method of assessment with a view to securing greater uniformity. In Washington the tax commission was given jurisdiction over all county and township offices. Maryland repealed a provision that gave cities power to make independent assessments. The State Tax Assessor in Maine was authorized to create not over six assessment districts. In Alabama a state appointed board in each county was created to revise and fix property values.

Various changes were also made in

tures are not to be assessed until one year after completion. (New York City was authorized to exempt increases in real property values due to improvements started after May 9, 1936, and completed by Jan. 25, 1941.) In Rhode Island towns are allowed to exempt idle manufacturing property for one year. Repairs to certain hurricane damages are exempt in New York, and Vermont. Alabama, and Georgia have passed laws for the taxation of Federal property so far as such taxation is legal.

In Michigan intangibles have been removed from taxation under the general property tax and are taxed under an income tax instead. The property tax on intangibles was also repealed in Maryland when that state adopted an income tax. Oklahoma, on the other hand, in the year beginning June 1, 1940, will classify intangibles for taxation under the property tax, as well as taxing them under the income tax. Delaware removed all property taxes, both state and local, from all personal property.

# STATE FINANCES

TABLE 4

## REVENUE OF 1937

Source of Revenue	Amount (000 omitted)	Per Capita	Per Cent Distribution
Total revenue.....	\$4,065,557	\$31.69	100.0
Total taxes.....	3,074,321	23.96	75.6
Property.....	373,397	2.91	9.2
General.....	206,433	1.61	5.1
Selective.....	47,817	.37	1.2
Special.....	119,147	.93	2.9
Income:			
Corporation.....	81,046	.63	2.0
Individual.....	158,619	1.24	3.9
Inheritance and estate.....	114,903	.90	2.8
Poll.....	4,654	.04	.1
Severance.....	44,137	.34	1.1
Sales.....	1,266,565	9.87	31.2
Motor fuel.....	627,196	4.89	15.4
General sales and use.....	430,996	3.36	10.6
All other.....	208,372	1.62	5.1
Business license.....	304,870	2.38	7.5
Nonbusiness license taxes and permits.....			
Motor vehicle.....	305,972	2.38	7.5
All other.....	17,363	.14	.4
Unemployment Compensation.....	346,770	2.70	8.5
All other.....	56,025	.44	1.4
Nontaxes.....	991,237	7.73	24.4
Special assessments and special charges.....	2,843	.02	.1
Grants-in-aid.....	586,270	4.57	14.4
Earnings of general departments.....	181,713	1.42	4.5
Contributions from public-service enterprises.....	50,794	.40	1.2
All other.....	169,617	1.32	4.2

A constitutional amendment was proposed in Florida prohibiting the levying of a tax by the state on tangible personal property. Some exemptions continue to be made in an effort to attract industry, but they are less important than in previous years. The constitution of Arkansas was amended to favor new industries, but a law has also been proposed repealing the amendment. Several local acts in South Carolina authorized the giving of a preference to new manufacturing establishments. A law proposing that the sum of all taxes levied on property in any one year shall not exceed 40 mills on the dollar is to be voted on in Washington at a referendum in 1940.

### PERSONAL INCOME TAXES

The most important development of the year affecting the taxation of personal incomes was the decision of the Supreme Court in *Graves v. O'Keefe*. As a result of this decision it is now legal for the states to tax

the income from Federal salaries or Federal compensation. Whether the states may now also tax interest from Federal securities is uncertain and is a question awaiting further clarification. Eleven states were already in a position to tax income from Federal services without any change in their laws—Arizona, Georgia, Idaho, Maryland, Massachusetts, Mississippi, Missouri, New Mexico, Oregon, South Dakota, and West Virginia. Fifteen states changed their laws so that they may tax income from Federal services—Alabama, Arkansas, California, Colorado, Delaware, Iowa, Kansas, Minnesota, Montana, New York, North Carolina, Oklahoma, South Carolina, Wisconsin, and Vermont. Six states have also revised their laws so that they may tax interest on Federal securities, should such taxation become legal—Alabama, Colorado, Iowa, Kansas, North Carolina, and Oklahoma.

One new income tax was added during 1939, that of the District of

## VII. PUBLIC FINANCE AND TAXATION

Columbia. A constitutional amendment was filed in Pennsylvania, authorizing an income tax, while in Nevada a constitutional amendment was proposed which would prevent the imposition of an income tax. The income tax was revised in Maryland, North Carolina, Oregon, and West Virginia. The rates were increased in the lower brackets in Oregon and a 2 per cent surtax was added; the total tax, however, is not to exceed 8 per cent of net income. The temporary increases in Massachusetts, New York, and Wisconsin were continued. The method of computing the tax

was changed in Maryland. Since 1937 a tax of  $\frac{1}{2}$  of 1 per cent had been levied on income. Under the new law 6 per cent of the investment income is to be added to  $2\frac{1}{2}$  per cent of the ordinary income; from this sum there is to be deducted  $2\frac{1}{2}$  per cent of the sum of deductions and personal exemptions. There is no income tax in Michigan, but a plan was adopted there for taxing intangibles on their income. If an intangible yields income, the tax is to be 6 per cent of the income; if it does not yield income the tax is to be  $\frac{1}{40}$  of 1 per cent of its face value. The

TABLE 5  
PERSONAL INCOME TAXES

State	Rate %	Highest Bracket Begins	Exemptions		
			Single	Head of Family	Dependents
Alabama.....	1½-5	\$ 5,000	\$1,500	\$3,000	\$300
Arizona.....	1-4½	10,000	10 from tax	20 from tax	4 from tax
Arkansas.....	1-5	25,000	1,500	2,500	400
California.....	1-15	250,000	1,000	2,500	400
Colorado.....	1-6	10,000	1,000	2,500	400
Delaware.....	1-3	10,000	1,000	2,000	200
District of Columbia.	1-3	20,000	1,000	2,500	400
Georgia.....	1-7	20,000	1,000	2,500	400
Idaho.....	1½-8	5,000	700	1,500	200
Iowa.....	1-5	4,000	10 from tax	20 from tax	5 from tax
Kansas.....	1-5	4,000	10 from tax	20 from tax	5 from tax
Kentucky.....	2-5	7,000	750	1,500	200
Louisiana.....	2-6	5,000	1,000	2,500	400
Maryland.....	2½-6	Type of income	1,000	2,500	400
Massachusetts.....	1½-6 and 10% of tax	Type of income	2,000	2,500	250
Minnesota.....	1-10	12,500	10 from tax	30 from tax	5 from tax
Mississippi.....	2½-6	15,000	1,000	2,500	400
Missouri.....	1-4	9,000	1,000	2,000	200
Montana.....	1-4	6,000	1,000	2,000	300
New Mexico.....	1-4	100,000	1,000	1,500	200
New York.....	2-7	9,000	1,000	2,500	400
North Carolina.....	3-6	6,000	1,000	2,000	200
North Dakota.....	1-15	15,000	5 from tax	15 from tax	2 from tax
Oklahoma.....	1-9	8,000	850	1,700	300
Oregon.....	2-7	4,000	800	1,500	300
Pennsylvania.....	2 (surtax)		500	800	
South Carolina.....	2-8	100,000	1,000	1,500	400
South Dakota.....	2-5	6,000	1,000	1,800	200
South Dakota.....	2-8	318,000	6 from tax	12 from tax	2 from tax
Utah.....	1-5	5,000	600	1,200	300
Vermont.....	2 on net income, 4 on interest and dividend		1,000	2,000	250
Virginia.....	1½-3	5,000	1,000	2,000	250
Washington.....	3-7	3,000	1,000	2,500	400
West Virginia.....	1-4	3,000	1,000	2,000	300
Wisconsin.....	1-7 & 60% of tax	12,000	8 from tax	17.50 from tax	4 from tax

## STATE FINANCES

income tax in Iowa is to be administered hereafter by the Tax Commission rather than by the State Board of Assessment and Review.

The rates of taxation in the thirty-three states that have an income tax and in the District of Columbia are shown in Table 5.

### CORPORATION AND BUSINESS TAXES

As in previous years the states continue to tax corporations on net income or by some form of capital stock tax. A new income tax on corporations was levied by the District of Columbia at 5 per cent of net income. The rate of taxation on net income was increased from  $\frac{1}{2}$  of 1 per cent to  $1\frac{1}{2}$  per cent in Maryland. The temporary additional rates on the net income of corporations in Massachusetts, Pennsylvania, and New York were continued. New York also continued the emergency tax of 4 per cent on the net income of unincorporated business. In Wisconsin the rate of the Privilege Dividend Tax was increased from  $2\frac{1}{2}$  to 3 per cent. The laws were also revised in California, Connecticut, Oregon, North Dakota, and New Mexico. The rate of taxation in each of the 32 states that have a tax on the net income of corporations and in the District of Columbia is shown in Table 6.

### INHERITANCE AND ESTATE TAXES

There was little change in the laws relating to the taxation of inherit-

ances and estates during 1939. A constitutional amendment was proposed in Nevada that would prohibit the levying of such a tax. The rates were reduced in Arizona and increased in Rhode Island. The emergency rates in New York were continued, and exemptions were raised in Arizona.

### GIFT TAXES

California and Tennessee adopted gift taxes, making eight states in all that have gift taxes—California, Colorado, Minnesota, North Carolina, Oregon, Tennessee, Virginia, and Wisconsin. These taxes have been imposed to prevent inheritance and estate taxes from being evaded by gifts *inter vivos*. North Carolina adopted specific rates for the gift tax; previously gifts have been taxed at the same rate as inheritances.

### GASOLINE TAXES

There was little change in gasoline taxes in 1939. North Dakota raised its rate from 3¢ to 4¢, and the temporary increases in rates in Florida, Massachusetts, Minnesota, Montana, Nebraska, New York, Ohio, and Pennsylvania were continued. The gasoline tax continues to be used for purposes other than highways, although constitutional amendments have been proposed in South Dakota and Wisconsin, which would forbid the use of revenue from the gasoline tax for purposes unrelated to highways. In Maine, Vermont, and Utah part of the proceeds are devoted to the promotion of aviation. The gasoline tax is used by every state.

TABLE 6  
TAXES ON THE NET INCOME OF CORPORATIONS

State	Per Cent Rate	State	Per Cent Rate	State	Per Cent Rate
Alabama.....	3	Louisiana.....	4	Oregon.....	8
Arizona.....	1-5	Maryland.....	$1\frac{1}{2}$	Pennsylvania....	7
Arkansas.....	2	Massachusetts....	$2\frac{1}{2}$	South Carolina....	$4\frac{1}{2}$
California.....	4	Minnesota.....	1-5	South Dakota....	1-8
Colorado.....	4	Mississippi.....	$2\frac{1}{2}$ -6	Tennessee.....	6
Connecticut....	2	Missouri.....	2	Utah.....	3
District of Columbia	5	Montana.....	3	Vermont.....	2
Georgia.....	$5\frac{1}{2}$	New Mexico.....	2	Wisconsin.....	2-6 and surtax
Idaho.....	$1\frac{1}{2}$ -8	New York.....	6	Virginia.....	3
Iowa.....	2	North Carolina....	6		
Kansas.....	2	North Dakota....	3-6		
Kentucky.....	4	Oklahoma.....	6		



# VII. PUBLIC FINANCE AND TAXATION

TABLE 7  
INHERITANCE TAXES

State	Per Cent Rate Scale, Direct Heirs	Highest Rate Applies to Amounts over (000 omitted)	Per Cent Rate Scale, Collateral Heirs	Highest Rate Applies to Amounts over (000 omitted)
Arizona.....	1-25	\$ 500	2-25	\$ 500
Arkansas.....	1-10	1000	2-40	1000
California.....	2-10	500	5-16	500
Colorado.....	2-8	500	3-13	200
Connecticut.....	2-9	200	2-8	200
Delaware.....	1-4	200	2-8	200
Idaho.....	2-15	500	4-30	500
Illinois.....	2-14	500	6-30	500
Indiana.....	1-10	1500	5-20	1000
Iowa.....	1-8	300	5-15	300
Kansas.....	1½-5	500	3-15	500
Kentucky.....	2-16	2000	4-16	60
Louisiana.....	2-3	20	5-10	20
Maine.....	1-3	250	4-8	250
Maryland.....	1-1½	20	7½	flat
Massachusetts.....	1-9	1000	3-12	flat
Michigan.....	2-8	750	10-15	flat
Minnesota.....	1-18	100	3-60	100
Missouri.....	1-6	400	3-30	400
Montana.....	2-8	100	4-32	100
Nebraska.....	1	50	4-12	50
New Hampshire.....	none	....	8½	flat
New Jersey.....	1-16	3700	5-16	3700
New Mexico.....	1	5	flat	flat
North Carolina.....	1-12	3000	4-25	3000
Ohio.....	1-4	200	5-10	200
Pennsylvania.....	2	flat	10	flat
Rhode Island.....	1-7	1000	2-11	1000
South Carolina.....	1-6	300	2-14	300
South Dakota.....	2-8	100	3-20	1000
Tennessee.....	1-7	500	5-15	500
Texas.....	1-6	1000	3-20	1000
Vermont.....	1-5	250	5	flat
Virginia.....	1-5	1000	2-15	1000
Washington.....	1-10	200	3-25	200
West Virginia.....	3-13	1000	4-30	1000
Wisconsin.....	2-10	500	4-40	500
Wyoming.....	2	flat	4-6	flat

TABLE 8  
ESTATE TAXES

State	Per Cent Rate	Exemption
Alabama.....	4½-16	\$100,000
Arizona.....	4½-16	100,000
Colorado.....	4½-16	100,000; tax levied only if estate exceeds \$250,000
Florida.....	4½-16	1,000; tax levied only if estate exceeds \$250,000
Georgia.....	4½-16	100,000; tax levied only if estate exceeds \$250,000
Mississippi.....	4½-16	50,000
New York.....	1-20	20,000 to husband and wife; 5,000 to others
North Dakota.....	2-23	20,000 to husband and wife; 2000-5000 to others
Oklahoma.....	1-10	15,000
Oregon.....	1-15	10,000
Rhode Island.....	1	10,000
Utah.....	3½	10,000

## SALES TAXES

No new sales taxes were enacted during 1939, although a number of

them that were supposed to be temporary were continued. The sales taxes in Alabama and Arkansas were

# STATE FINANCES

TABLE 9

## GASOLINE TAXES

State	Cents per Gallon	State	Cents per Gallon	State	Cents per Gallon
Alabama.....	6	Maine.....	4	Ohio.....	4
Arizona.....	5	Maryland.....	4	Oklahoma.....	4
Arkansas.....	6½	Massachusetts.....	3	Oregon.....	5
California.....	3	Michigan.....	3	Pennsylvania.....	4
Colorado.....	4	Minnesota.....	4	Rhode Island.....	3
Connecticut.....	3	Mississippi.....	6	South Carolina.....	6
Delaware.....	4	Missouri.....	2	South Dakota.....	4
Florida.....	7	Montana.....	5	Tennessee.....	7
Georgia.....	6	Nebraska.....	6	Texas.....	4
Idaho.....	5	Nevada.....	4	Utah.....	4
Illinois.....	3	New Hampshire.....	4	Vermont.....	4
Indiana.....	4	New Jersey.....	3	Virginia.....	5
Iowa.....	3	New Mexico.....	5	Washington.....	5
Kansas.....	3	New York.....	4	West Virginia.....	5
Kentucky.....	5	North Carolina.....	6	Wisconsin.....	4
Louisiana.....	7	North Dakota.....	4	Wyoming.....	4

made permanent. It might be noted | City was continued and probably in-  
here that the sales tax in New York | definitely so.

TABLE 10

## SALES TAXES

Alabama.....	Levy of 2% upon retail sales and amusements; ½ of 1% upon sale of automobiles.
Arizona.....	Levy upon gross proceeds of sales. Manufacturers, 1%; Motor carriers, 1%; Mining, etc. 1%; Electrical energy carriers, telephones, 1%; Sale of tangible personal property at retail, 1½%.
Arkansas.....	Levy upon retail sale of tangible personal property of 2%. Extends to utility services.
California.....	Levy upon privilege of selling tangible personal property at retail; 3% on gross sales. Extends to use of property purchases without state.
Colorado.....	Levy of 2% upon receipts from sale of tangible personal property at retail. Extends services by utilities, professions, trades, hotels, etc.
Idaho.....	Levy of 2% upon receipts from sale of tangible personal property at retail. Extends to utility services.
Illinois.....	Levy of 3% of gross sales for privilege of selling tangible personal property at retail. Extends to utility services.
Indiana.....	Levy upon gross income. Manufacturers, ¼%; wholesalers, ¼%; utilities, 1%; banks, etc., 1%; professions and all others, 1%.
Iowa.....	Levy of 2% upon gross receipts from retail sales.
Kansas.....	Levy of 2% on retail sales of tangible personal property, utility services and amusements.
Louisiana.....	Levy of 1% on retail sales of tangible personal property.
Maryland.....	Levy of 1% on retail sales of tangible personal property.
Michigan.....	Levy of 3% on gross sales for privilege of engaging in sale of tangible personal property at retail.
Mississippi.....	Levy upon privilege of engaging in business. Natural products, 2%; gas, 2½%; manufactures, ¼ to 1%; wholesalers, ⅛%; retailers, 2%; utilities, 2%; contractors, 1%.
Missouri.....	Levy upon privilege of selling tangible personal property. 1% of gross receipts.
New Mexico.....	Occupational tax on retail dealers. Rate ranges from ¼ to 1% to 2% depending on nature of business.
New York.....	Levy of 1% upon retail sales.

## VII. PUBLIC FINANCE AND TAXATION

North Carolina.....	Levy on privilege of merchandising. Wholesalers, 1/25% of gross sales, minimum, \$25 per year; retailers, \$1 plus 3% of gross sales.
North Dakota.....	Levy of 2% on receipts of retail sales. Extends to public utility services.
Ohio.....	3% upon receipts from retail sales.
Oklahoma.....	Levy upon sales of tangible personal property and certain specified services and intangibles at 2%.
South Dakota.....	Levy upon gross income. Manufacturers, 1/4%; salaries 1% to 2%; wholesalers, 1/4%; retailers, 3%.
Utah.....	Levy on sale of tangible personal property. 2% on receipts. Extends to utility services.
Washington.....	Levy upon gross receipts for privilege of engaging in business. Natural products, 3/10% to 1%; manufacturers, 1/4%; wholesalers, 1/8%; retailers, 1/2%; utilities, 1/2% to 3%.
West Virginia.....	Levy upon gross sales for privilege of engaging in business. Natural products, 1% to 6%; manufacturers, 3/10%; wholesalers, 3/20%; utilities, 1% to 3%; retailers, 2%.
Wyoming.....	Levy upon receipts from retail sales at rate of 2%.

### USE TAXES

Use taxes have been enacted as a supplement to sales taxes. Since the Federal Constitution forbids any state to levy a tax on the sale of goods purchased in another state, many states that have sales taxes have levied a tax on goods that are stored or consumed. In most cases persons in possession of goods that are subject to the sales tax are subject to

TABLE 11  
TAXES ON CHAIN STORES

State	Maximum Tax	Applicable to Each Store Above
Alabama.....	\$ 75	20
California.....	500	10
Colorado.....	300	24
Delaware.....	10 plus 10 cents for each \$100 of sales in excess of \$5,000	
Georgia.....	200	40
Florida.....	400	16
Idaho.....	500	19
Indiana.....	150	20
Iowa.....	155	50
Kentucky.....	500	50
Louisiana.....	550	500
Maine.....	50	25
Maryland.....	150	20
Michigan.....	250	25
Minnesota.....	350	151
Mississippi.....	300	40
Montana.....	30	10
North Carolina.....	250	200
Pennsylvania.....	500	500
South Carolina.....	150	30
South Dakota.....	150	50
Tennessee.....	3 upon each 100 sq. ft. floor space	
Texas.....	750	50
West Virginia.....	250	75
Wisconsin.....	100	25

the use tax, unless they can show that the sales tax has already been paid. The tax is more successfully collected where goods are purchased in another state by a business firm for use in further production or by wholesalers or retailers than where goods are purchased by individuals.

Six states—Alabama, Arkansas, New Mexico, North Carolina, North Dakota, and South Dakota—added a use tax to their revenue systems in 1939. Seventeen states now have a use tax. In practically all of them the rate of the tax is the same as that of the sales tax.

### TAXATION OF CHAIN STORES

No new taxes on chain stores were levied during 1939. The rates were raised in North Carolina, and decreased in South Dakota. In Tennessee it was provided that the rate of taxation should be one and a half times greater for stores operated by corporations outside of the state or by non-residents. There is considerable doubt as to the legality of this law.

### TOBACCO TAXES

A tax on tobacco was adopted in 1939 by four more states—New Hampshire, New York, Rhode Island, and Massachusetts—bringing the number of states using this tax to 25. Temporary taxes in Connecticut, Ohio, Pennsylvania, and Vermont were continued. (It is interesting to note that New York City continued its tax, and that St. Louis also adopted a ciga-

## STATE FINANCES

rette tax. The legislature of New York authorized cities to impose a 10 per cent sales tax on tobacco [except cigarettes] in connection with slum clearance and housing projects.) Several states—among them, Ohio, Iowa, and South Dakota—levied a use tax on cigarettes. Vermont and Washington increased taxes on tobacco, while Tennessee lowered its rates with the provision that the old rates would be restored if the new ones failed to yield a specified amount of revenue.

duction was the repeal of the tax on malt syrups in Indiana and Oregon. Liquor is sold in state stores in nine states that have state monopolies. In the other states liquor is taxed by a system of licenses and by a tax of a certain amount per gallon or per barrel, or a tax of a certain percentage of sales.

### TAXATION OF BANKS

Banks continue to be taxed as in previous years upon their capital stock or upon their net income. South

TABLE 12  
**TAXES ON TOBACCO**

State	Tax on Cigars	Tax on Cigarettes
Alabama.....	\$1 to \$12.50 per 1000 cigars depending on retail price.	1¢ for each 5¢ retail price per package.
Arizona.....	1¢ per three cigars to 1¢ per cigar depending on retail price.	2¢ on each 20 cigarettes or fraction thereof.
Arkansas.....	10% of retail price.	\$2.50 per 1000 cigarettes.
Connecticut.....		1 mill per cigarette.
Georgia.....	\$1 per 1000 cigars.....	1¢ for each 5¢ sale.
Iowa.....		1 mill to 2 mills per cigarette depending on size.
Kansas.....		2¢ on each 20 cigarettes or fraction thereof.
Kentucky.....		1¢ for each 10¢ sale.
Louisiana.....	\$2 to \$12.50 per 1000 cigars depending on the retail price.	2 mills per cigarette.
Massachusetts.....		2¢ per package.
Mississippi.....	1¢ on each 5¢ retail price or fraction thereof.	1¢ on each 5¢ retail price or fraction thereof.
North Dakota....		1½ mills to 2 mills per cigarette depending on size.
New Hampshire...	15% of retail price.	2¢ per package.
New York.....		1 mill per cigarette.
Ohio.....		1¢ on each 10 cigarettes or fraction thereof.
Oklahoma.....		1½ mills per cigarette.
Pennsylvania.....		1¢ on each 10 cigarettes.
Rhode Island.....		1 mill per cigarette.
South Carolina....	10% of retail price.	1¢ per each 5¢ retail price or fraction thereof.
South Dakota.....	Less than 3 lbs. per 1000, 1¢ per 10 to \$10 per 1000.	1½ mills to 4 mills per cigarette depending on weight.
Tennessee.....	5% on manufactured tobacco.	1½ mill per cigarette; 15% when retail price is over 1¢.
Texas.....	\$1 to \$13.50 per 1000 cigars.	Less than 3 lbs. per 1000, \$1.50.
Utah.....		More than 3 lbs. per 1000, \$3.50.
Vermont.....		Not more than 3 lbs. per 1000, 1 mill each.
Washington.....		More than 3 lbs. per 1000, 2 mills each.
		1 mill per cigarette.
		1 mill per cigarette; 20% when retail price is over 1¢.

### LIQUOR TAXES

There were a good many changes made in the taxation of liquor during 1939. New or increased rates were

imposed in 18 states. The only re-Dakota repealed its tax on bank shares and levied a tax on the net income of banks instead.



# VII. PUBLIC FINANCE AND TAXATION

TABLE 13  
TAXES ON THE NET INCOME  
OF BANKS

State	Per Cent Rate
Alabama.....	6
California.....	4-8
Colorado.....	6
Connecticut.....	2
Massachusetts.....	6
New York.....	4½
Oklahoma.....	1-6
Oregon.....	8
Idaho.....	1.5-8
South Carolina.....	4½
South Dakota.....	3
Utah.....	3
Wisconsin.....	2-6 & surtax

## MISCELLANEOUS TAXES

A number of states increased their taxes on pari-mutuel wagers. Rates were increased from 1 to 2 per cent in Maryland, and from 3½ to 4½ per cent in New Hampshire. Furthermore, if races are conducted for more than eight days in New Hampshire, there is local tax of \$250 per day. New Jersey approved a constitutional amendment authorizing pari-mutuel betting at horse races and the taxation of the revenue therefrom by the state. A similar amendment has been proposed in New York. A few states tax legalized betting in other ways.

Amusement and admission taxes were adopted by various states in 1939. Maine imposed a 3 per cent tax on receipts from boxing. Maryland continued its admissions tax of 1 per cent. The New York legislature authorized cities and towns to impose a tax of from one cent to 10 cents on admissions, the proceeds to be used for slum clearance and other special projects. Tennessee imposed a tax of 4 per cent on the gross receipts of theaters having bank nights. In Washington automobile parking was made subject to the admissions tax. Vermont imposed a tax of 5 per cent on the gross receipts of sales of musical compositions.

Taxes continue to be imposed on certain products for the purpose of advertising those products—apples in Michigan and Washington, onions and potatoes in Idaho, potatoes in Maine,

milk in New York, citrus fruit in Florida.

In an effort to secure greater efficiency in tax collection and administration, four states—Alabama, Kansas, Ohio, and Minnesota—abolished their tax commissions and set up Depart-

TABLE 14  
TOTAL NET DEBT OF STATES  
IN 1937, AND PER CAPITA  
DEBT IN 1937 AND 1932

State	Total Debt	Per Capita	
		1937	1932
Maine.....	\$29,969	\$35.05	\$33.76
New Hampshire.....	13,901	27.31	12.89
Vermont.....	7,843	20.53	24.19
Massachusetts.....	22,772	5.15	4.04
Rhode Island.....	26,966	39.60	24.15
Connecticut.....	*	*	.....
New York.....	525,900	40.62	25.60
New Jersey.....	86,905	20.04	15.05
Pennsylvania.....	121,670	11.98	7.76
Ohio.....	10,427	1.55	.89
Indiana.....	4,458	1.29	.90
Illinois.....	200,539	25.50	24.48
Michigan.....	34,123	7.10	11.38
Wisconsin.....	1,184	.41	.40
Minnesota.....	62,559	23.66	14.33
Iowa.....	6,458	2.53	5.94
Missouri.....	119,215	29.89	28.25
North Dakota.....	*	*	5.48
South Dakota.....	2,511	3.63	20.74
Nebraska.....	531	.39	.17
Kansas.....	21,457	11.46	11.05
Delaware.....	3,118	11.98	8.63
Maryland.....	50,787	30.27	21.56
Virginia.....	23,892	8.88	9.87
West Virginia.....	76,019	41.11	47.18
North Carolina.....	136,420	39.25	51.02
South Carolina.....	40,771	21.83	38.48
Georgia.....	23,492	7.61	3.45
Florida.....	.....	.....	.....
Kentucky.....	14,929	5.14	.87
Tennessee.....	91,007	31.60	34.62
Alabama.....	72,591	25.14	24.97
Mississippi.....	51,460	25.53	16.23
Arkansas.....	163,859	80.44	85.94
Louisiana.....	126,325	59.25	34.50
Oklahoma.....	11,936	4.70	.55
Texas.....	26,649	4.33	1.27
Montana.....	9,850	18.41	8.03
Idaho.....	2,204	4.49	8.87
Wyoming.....	3,215	13.68	17.68
Colorado.....	30,056	28.12	5.68
New Mexico.....	15,243	36.12	23.46
Arizona.....	1,598	3.91	.61
Utah.....	3,901	7.53	9.29
Nevada.....	662	6.56	9.27
Washington.....	12,547	7.62	4.65
Oregon.....	26,389	25.82	32.27
California.....	106,332	17.40	24.12
Grand Total...	\$2,424,648	\$18.90	\$16.37

\* Sinking-fund assets are in excess of funded or fixed debt.

## MUNICIPAL FINANCE

ments of Taxation headed by a commissioner.

### INDEBTEDNESS

The total net debt of states in 1937 and the per capita debt in 1937 and 1932 are shown in Table 14. (The debt shown is the funded or fixed debt less sinking fund assets, but not including contingent and floating obligations.) That the debt increased in these years is not surprising, in view of the heavy demands for state expenditures. Although there was an increase in the debt of all states in 1937, there was a decrease during that year in the debt of over half of the states.

### SOURCES OF INFORMATION ON STATE FINANCES

The information presented here can be found in *Financial Statistics of States* for 1932 and 1937; Bureau of the Census, U. S. Department of Commerce; "Changes in Tax Laws—1939," Beulah Bailey Thull, *Tax Digest*, October, 1939; "State Tax Legislation, 1939," Raymond E. Manning, *Proceedings of National Tax Association*, 1939. Further information can be found in *Tax Systems of the World*, Commerce Clearing House Inc.

## MUNICIPAL FINANCE

By H. K. ALLEN

ASSISTANT PROFESSOR, UNIVERSITY OF ILLINOIS

### GENERAL

An examination of the financial condition of municipalities for the year 1939 shows definite signs of a continuation of the improvement which began in 1934. This further improvement is indicated especially by a decline in tax delinquencies, an

increase in the collection of back taxes, and a decrease in the number of defaults. The decline in tax delinquencies and the increase in back tax collections resulted from the general improvement in business conditions and from the activities of various Federal agencies. The reduction

### MUNICIPAL EXPENDITURES

(000 omitted)

Operation and Maintenance of General Departments: 146 Cities

Year	Total	General Government	Protection to Person and Property	Health and Sanitation	Highways
1936 <sup>1</sup>	\$1,838,803	\$150,213	\$317,154	\$141,207	\$108,910
1935 <sup>1</sup>	1,797,798	139,144	307,733	135,892	111,358
1934 <sup>1</sup>	1,744,975	135,766	298,758	134,296	111,306
1933 <sup>1</sup>	1,727,043	142,296	298,852	138,921	110,652
1932 <sup>1</sup>	1,806,517	149,909	328,797	160,010	127,670
1931	2,229,492	183,171	421,055	202,502	181,314
1930	1,820,905	163,614	361,945	180,553	149,268
1929	1,730,288	140,521	339,816	174,858	147,375
1927	1,562,615	136,848	315,362	160,259	137,892
1924	1,287,484	111,856	259,275	130,388	109,807
1922	1,155,691	105,174	234,199	115,488	98,763
1919	697,319	72,585	146,763	75,847	65,003
1915	546,568	62,793	120,696	55,758	60,615
1911	452,899	53,766	106,120	45,691	52,214
1907	367,367	42,703	87,885	36,899	42,718
1903	278,173	30,842	71,020	25,807	34,208

<sup>1</sup> Statistics for 1932 to 1936 are for 94 cities having a population over 100,000. All other data are for cities over 30,000.

# VII. PUBLIC FINANCE AND TAXATION

## MUNICIPAL EXPENDITURES—Continued

Year	Charities, Hospitals, and Corrections	Schools	Libraries	Recreation	Miscellaneous
1936	\$366,466	\$571,922	\$21,119	\$52,303	\$109,504
1935	337,990	545,718	20,840	47,943	151,180
1934	345,214	526,864	20,271	48,306	124,194
1933	292,212	542,034	19,744	60,097	122,235
1932	234,419	629,353	— <sup>1</sup>	63,117	113,242
1931	201,896	839,577	— <sup>1</sup>	78,952	121,027
1930	138,051	637,196	24,515	66,060	99,692
1929	116,147	622,587	23,029	61,863	94,091
1927	99,806	560,668	20,167	53,839	77,731
1924	79,239	475,725	15,782	41,819	63,590
1922	76,627	422,843	14,326	38,703	49,603
1919	53,262	216,701	9,079	24,204	33,870
1915	38,285	162,332	7,134	20,416	18,535
1911	30,647	127,604	5,939	17,114	13,801
1907	24,408	102,395	4,989	11,794	13,572
1903	18,280	80,853	4,067	7,457	5,634

<sup>1</sup> Expenditures for libraries and schools combined in 1931 and 1932.

in the number of defaults is largely attributable to the improvement in tax collections.

The most recent year for which the comprehensive statistics of the Bureau of the Census are available is for 1936. Unfortunately, the figures for 1932 to 1936 are limited to cities having a population of over 100,000.

By Executive Order of June 10, 1933, the annual collection and compilation of financial statistics was limited to cities of over 100,000 population.

While some of the absolute expenditures just noted may appear large, yet too great significance should not be attached to them. The size of an expenditure becomes intelligible in

## PER CAPITA EXPENDITURES

Year	Total	General Government	Protection to Person and Property	Health and Sanitation	Highways	Charities, Hospitals, and Corrections	EDUCATION		Recreation <sup>2</sup>	Miscellaneous <sup>1</sup>
							Schools <sup>1</sup>	Libraries <sup>2</sup>		
1936	\$48.83	\$3.99	\$8.43	\$3.75	\$2.89	\$9.73	\$15.19	.56	\$1.39	\$2.91
1935	47.78	3.70	8.18	3.61	2.76	8.98	15.05	..	1.27	4.02
1934	46.43	3.61	7.95	3.57	2.97	9.18	14.56	..	1.29	3.30
1933	46.08	3.80	7.98	3.71	2.95	7.80	14.99	..	1.60	3.26
1932	47.87	3.97	8.71	4.24	3.38	6.21	16.68	..	1.67	3.00
1931	46.18	3.79	8.72	4.19	3.75	4.18	17.39	..	1.63	2.51
1930	44.29	3.82	8.68	4.28	3.64	3.12	16.28	.61	1.59	2.28
1929	43.45	3.66	8.46	4.33	3.70	2.78	16.14	.59	1.55	2.25
1927	40.77	3.46	8.13	4.13	3.60	2.49	15.08	.53	1.40	1.94
1924	35.61	3.01	7.10	3.55	3.07	2.08	13.52	.44	1.15	1.67
1922	33.15	2.94	6.66	3.25	2.87	2.08	12.50	.41	1.09	1.34
1919	21.63	2.22	4.53	2.34	2.04	1.59	6.88	.28	.74	1.01
1915	18.45	2.10	4.06	1.86	2.06	1.26	5.58	.24	.68	.61
1911	17.62	2.08	4.12	1.77	2.04	1.17	5.04	.23	.65	.53
1907	15.95	1.86	3.80	1.59	1.91	1.05	4.42	.21	.51	.59
1903	13.19	1.46	3.35	1.21	1.64	.86	3.86	.10	.35	.27

<sup>1</sup> Payment for pensions are included in column "Miscellaneous" for the years 1911 to 1928 inclusive; for the years 1903 to 1909 inclusive, they are included with expenses of police, fire, and school departments.

<sup>2</sup> Payments for expenses of art galleries and museums are included in column "Recreation" for the years 1911 to 1928 inclusive; for the years 1903 to 1909 inclusive, they are included with the expenses of libraries; expenditures for libraries and schools are combined for the years 1931 to 1935.

## MUNICIPAL FINANCE

terms of service when one discovers the number among whom it is divided. The per capita expenditures of cities, both as a whole and for particular items, have varied greatly from time to time, but the general tendency has been to increase. The following table shows the change in per capita expenditures for selected years:

### IMPORTANCE OF DIFFERENT MUNICIPAL EXPENDITURES

There is a wide difference in the importance attached to the different functions performed by municipalities. While over a period of years there has been some change in the relative importance of some of the items, it is interesting to note that expenditures for education have always been far larger than any other, and that the relative importance of this item up to 1932 tended to increase with the years. Protection and highways have commanded a smaller percentage of the expenditures than formerly. The most significant development in recent years, it will be noted, is the increase in expenditures for charities, hospitals, and corrections. The following table shows the relative importance of the different services over a period of years:

The expenditures just described are designated as "expenses" by the Census Bureau. In addition to these are a number of other expenditures, the most important of which are for interest, outlays, and payments for operation and maintenance of public-service enterprises. The interest payments are for the funded and floating debt, special assessment loans, and other minor types of borrowing. In 1936 the total interest payment was \$354,114,735. The corresponding figure for 1935 was \$340,770,000.

Expenditures for outlays comprise the amounts paid for the acquisition and construction of more or less permanent improvements, including payments for additions made to those previously acquired or constructed. Such payments in 1936 amounted to \$438,737,948 in comparison with \$358,400,000 for the preceding year.

The water-supply system is the most important public-service enterprise operated by American cities. Of the 94 municipalities for which the census data are available, 84 have water-supply systems, and the payments for operating them in 1936 amounted to \$68,184,970. The revenue receipts for these enterprises were \$184,359,205, or more than double the operating costs. These figures must be used with caution,

### PERCENTAGE OF EXPENDITURES FOR DIFFERENT FUNCTIONS

Year	General Government	Protection to Person and Property	Health and Sanitation	Highways	Charities, Hospitals, Corrections	Schools	Libraries <sup>1</sup>	Recreation	Miscellaneous
1936	8.2	17.2	7.7	5.9	19.9	31.1	1.1	2.8	6.0
1935	7.7	17.1	7.5	6.2	18.8	31.6	..	2.7	8.4
1934	7.8	17.1	7.7	6.4	19.8	31.4	..	2.8	7.1
1933	8.2	17.3	8.1	6.4	16.9	32.5	..	3.5	7.1
1932	8.3	18.2	8.9	7.1	13.0	34.8	..	3.5	6.3
1931	8.2	18.9	9.1	8.1	9.1	37.6	..	3.5	5.4
1930	8.6	19.6	9.7	8.2	7.0	36.8	1.4	3.6	5.1
1929	8.4	19.5	10.0	8.5	6.4	37.2	1.4	3.6	5.2
1927	8.5	20.0	10.1	8.8	6.6	37.0	1.3	3.4	4.8
1924	8.5	19.9	10.0	8.6	5.9	38.0	1.2	3.2	4.7
1922	8.9	20.1	9.8	8.7	6.3	37.7	1.2	3.3	4.0
1919	10.2	21.0	10.8	9.4	7.3	31.8	1.3	3.4	4.7
1915	11.4	22.0	10.1	11.2	6.8	30.2	1.3	3.7	3.3
1911	11.8	23.4	10.1	11.6	6.6	28.6	1.3	3.7	3.0
1907	11.7	23.8	9.9	12.0	6.6	27.7	1.3	3.2	3.6
1903	11.1	25.3	9.2	12.4	6.5	29.3	1.5	2.7	2.1

<sup>1</sup> Percentages for schools and libraries combined for the years 1931 to 1935.



## VII. PUBLIC FINANCE AND TAXATION

however, because such enterprises are usually exempted from the payment of taxes. The payments, moreover, often do not include proper allowances for interest on the investment, depreciation, and other charges which are included in the costs of the privately-owned utilities.

### SOURCES OF REVENUE

**Property Taxes.**—The revenue of cities arises from a number of sources. In most cities more than 90 per cent of the funds which go into the general revenue fund come from the general property tax. This is a tax levied against real and personal property. In addition to the general property tax the Census Bureau designates certain taxes as special property taxes. Such include taxes upon

can be made as to method of levy since this varies greatly from city to city. In addition, business and non-business license taxes make up a large group of levies upon different types of business activities, some of which, of course, are levied primarily for regulative purposes. The latter include such levies as those upon dogs, dance halls, etc. Receipts from special assessments constitute an important item, but they do not enter the general revenue fund. In some places at a particular time subventions and grants are an important source of income, while in some cities, also, the earnings from public enterprises are not unimportant. The relative importance of the major sources of revenue over a period of years is shown in the following table:

PERCENTAGE OF RECEIPTS FROM DIFFERENT SOURCES OF REVENUE

Year	The General Property Tax	Other Taxes	Special Assessments	Subventions and Grants, Donations and Pension Assessments	Earnings of Public Service Enterprises	Other Revenues
1936	59.7	7.9	1.6	14.3	10.4	6.1
1935	60.2	6.8	1.7	15.6	9.5	6.2
1934	62.6	5.3	2.2	13.5	9.8	6.6
1933	64.3	4.3	2.4	12.3	9.5	7.2
1932	66.2	4.7	3.9	8.5	9.3	7.4
1931	66.2	4.7	3.9	8.5	9.3	7.4
1930	65.9	6.2	6.7	5.8	9.4	5.9
1929	64.7	6.4	7.2	5.8	9.8	6.1
1927	66.1	5.7	7.7	4.9	9.6	6.2
1924	66.1	5.7	5.9	5.3	10.3	6.8
1922	66.9	5.2	4.8	5.9	9.0	8.2
1919	66.0	7.6	5.6	4.1	10.2	6.4
1915	62.4	7.8	8.5	4.2	10.0	6.9
1911	61.9	8.7	8.4	4.6	10.6	5.8
1907	59.4	10.6	8.2	4.8	11.2	5.8
1903	61.4	9.8	7.6	4.3	11.5	5.5

the capital stock of corporations, upon savings banks and other financial institutions, and upon insurance companies. Included in this, also, would be taxes levied upon mortgages at time of recording, taxes upon incomes and estates, upon investments, and a wide range of specific taxes.

**Poll and Business Taxes.**—In many cities, also, some form of poll tax continues to be used, although such taxes are much less important than formerly. No generalization

### PER CAPITA TAX BURDEN

That the tax burden imposed by cities has been increasing much more rapidly than population is readily seen when one notes the change in the per capita amounts collected from different sources over a period of years.

### MUNICIPAL INDEBTEDNESS

Receipts from sources of revenue may either just pay expenses, more than pay expenses, or fail to pay

# MUNICIPAL FINANCE

## PER CAPITA RECEIPTS FROM DIFFERENT SOURCES

Year	Total	The General Property Tax	Other Taxes	Special Assessments	Subventions and Grants, Donations, and Pension Assessments	Earnings of Public Service, Enterprises	Other Revenues
1936	\$76.83	\$45.83	\$6.03	\$1.21	\$10.95	\$8.03	\$4.78
1935	77.64	46.72	5.26	1.32	12.10	7.37	4.87
1934	72.13	45.17	3.77	1.61	9.71	7.09	4.78
1933	66.88	43.02	2.88	1.59	8.25	6.36	4.78
1932	68.82	45.57	3.24	2.70	5.84	6.42	5.03
1931	70.84	46.90	3.46	3.86	4.79	6.89	4.94
1930	73.32	48.34	4.57	4.91	4.25	6.92	4.33
1929	69.63	45.07	4.43	5.01	4.02	6.82	4.28
1927	69.77	46.09	3.95	5.36	3.40	6.67	4.29
1924	58.41	38.59	3.33	3.43	3.12	6.00	3.96
1922	53.57	35.85	2.80	2.58	3.13	4.83	4.38
1919	35.26	23.29	2.68	1.98	1.43	3.61	2.27
1915	30.00	18.73	2.36	2.54	1.26	3.03	2.08
1911	28.07	17.37	2.44	2.35	1.30	2.98	1.63
1907	24.67	14.64	2.63	2.02	1.18	2.77	1.43
1903	21.14	12.98	2.06	1.60	.91	2.42	1.16

them. In many cases the administrators of the finances have planned for a surplus but because of a shrinkage in revenue have had to resort to borrowing.

In the calculations of the Census Bureau municipal indebtedness is divided into two distinct groups—funded debt and floating debt. The former includes all obligations represented by formal investments which have a number of years to run and

for the redemption of which no assets other than a sinking fund have been specifically designated. The latter, on the other hand, includes such indebtedness as is evidenced by warrants and accounts payable, by short term bonds, etc. The gross indebtedness is, of course, the total amount, while to subtract from this the value of the assets in a sinking fund will indicate the net indebtedness. The following table shows the total in-

## MUNICIPAL INDEBTEDNESS

(000 omitted)

Year	Funded or Fixed, and Floating, Debt	Sinking Fund Assets		"Net Debt	
		Amount	Per Capita	Amount	Per Capita
1936	\$..... <sup>1</sup>	\$..... <sup>1</sup>	\$.... <sup>1</sup>	\$6,331,516 <sup>2</sup>	\$168.13
1935	..... <sup>1</sup>	..... <sup>1</sup>	..... <sup>1</sup>	6,397,603	170.03
1934	..... <sup>1</sup>	..... <sup>1</sup>	..... <sup>1</sup>	6,380,478	169.76
1933	..... <sup>1</sup>	..... <sup>1</sup>	..... <sup>1</sup>	6,360,586	169.70
1932	..... <sup>1</sup>	..... <sup>1</sup>	..... <sup>1</sup>	6,289,078	166.66
1931	..... <sup>1</sup>	..... <sup>1</sup>	..... <sup>1</sup>	6,328,778	159.70
1930	7,808,379	1,840,816	47.20	5,967,563	153.02
1929	7,233,151	1,703,316	44.45	5,529,835	144.33
1927	6,456,781	1,513,273	41.10	4,943,507	134.27
1924	5,057,023	1,215,043	34.82	3,481,980	110.09
1922	4,332,114	1,051,468	31.27	3,280,645	97.57
1919	3,352,688	811,516	25.93	2,541,172	81.18
1915	2,866,008	620,102	21.50	2,245,906	77.86
1911	2,305,059	496,230	11.52	1,808,828	67.52
1907	1,657,320	362,441	15.68	1,808,878	56.04
1903	1,223,101	290,096	13.90	933,004	44.71

<sup>1</sup> Not available for years 1931 to 1936.

<sup>2</sup> Exclusive of floating debt.

## VII. PUBLIC FINANCE AND TAXATION

debtedness, the sinking fund assets, and the net indebtedness for certain years. The latest statistics that are available for 1931 to 1936 give only net indebtedness.

### THE BOND MARKET

An improvement in the demand for municipal securities since 1933 is indicated by the following table which shows the aggregate disposals of long-term obligations by states and municipalities for the first ten months of each year for a series of years:

#### MUNICIPAL BOND ISSUES

(000 omitted)

Year	Total First Ten Months	Year	Total First Ten Months
1939	\$ 956,386	1925	\$1,174,724
1938	800,606	1924	1,280,504
1937	769,778	1923	850,952
1936	955,500	1922	990,188
1935	973,869	1921	868,392
1934	725,660	1920	570,109
1933	392,580	1919	581,871
1932	701,938	1918	245,789
1931	1,156,129	1917	402,828
1930	1,211,857	1916	402,548
1929	1,055,135	1915	434,829
1928	1,094,074	1914	423,171
1927	1,297,029	1913	327,902
1926	1,149,105		

Source: *Commercial and Financial Chronicle*.

#### FEDERAL EMERGENCY ADMINISTRATION OF PUBLIC WORKS

The table showing municipal bond issues does not include the extension grants made to municipalities for public-works projects by the Federal Emergency Administration of Public Works. This agency was created by the National Industrial Recovery Act which became effective June 16, 1933. Under title II of this act, authority was granted to the Administrator to furnish grants, not subject to repayment, for 30 per cent of the total expenditures incurred for the payment of labor and material costs on approved public-works projects. Moreover, the agency was authorized to accept 4 per cent general obligation or revenue bonds of the municipalities as security for the loan por-

tion of the allotment. In 1934 Congress authorized the Reconstruction Finance Corporation to purchase marketable securities from the Public Works Administration and provided that moneys realized by the Public Works Administration from such sales might be used for making additional loans, but not grants, in aid of non-Federal public-works projects under title II of the N.I.R.A.

In addition to the program of public works administered under title II of the National Industrial Recovery Act, the Public Works Administration has been carrying on a separate program pursuant to the Emergency Relief Appropriation Act of 1935. Under the latter act the amount of the grant has been fixed by administrative determination at 45 per cent of the cost of the project, with a corresponding reduction in the amount to be furnished by the applicant. Provision was made under this act for the sale of bonds acquired as collateral for municipal loans either on the open market or to the Reconstruction Finance Corporation, the proceeds to be used only for the making of loans. In practice the sales have been confined to the Reconstruction Finance Corporation which, in turn, sells the securities on the open market. A substantial profit has been derived from this financing, but in recent months municipalities have found it advantageous to dispose of an increasingly large number of issues locally.

The Public Works Administration since its creation has pledged itself to buy approximately \$1,000,000,000 worth of bonds. Because of recent large withdrawals, this commitment has been greatly reduced, and a much smaller amount has actually been delivered. The major portion of the amount acquired by the Public Works Administration has been placed with the Reconstruction Finance Corporation and resold to the general public. Total allotments for all non-Federal projects for the years 1933 to 1937, inclusive, totaled \$1,450,952,783. Of this amount, \$592,325,453 consisted of loans and \$858,627,330 was in grants.

## MUNICIPAL FINANCE

### TAX DELINQUENCY

Tax delinquency is a natural phenomenon of a business depression. And a rising trend of tax delinquency inevitably cripples municipal functions and weakens municipal credit. Dun and Bradstreet has made a study of the trend of medium year-end tax delinquency in 150 cities of over 50,000 population for the nine-year period from 1930 to 1939. The following percentages show the median delinquency on the current tax levy at the end of each fiscal year:

1930	1931	1932	1933	1934
10.15%	14.60%	19.95%	26.35%	23.05%
1935	1936	1937	1938	
18.0%	13.9%	11.3%	10.7%	

These figures show a substantial gain in collections since 1933; and delinquency in 1938 was little higher than it was in 1930. Only fragmentary data are available for 1939, but it is believed that little change has occurred.

### DEBT DEFAULTS

Heavy tax delinquency in recent years naturally resulted in a large number of defaults. The *Bond Buyer* estimated, with certain reservations, that 597 cities and towns were in default on their bonds on Nov. 1, 1939. This represents a substantial reduction from the previous year when 675 incorporated places were in default. The following states, according to the *Bond Buyer*, had the largest number of defaults:

Florida.....	138	Oklahoma.....	40
North Carolina...	84	New Jersey.....	25
Texas.....	72	Ohio.....	23
Michigan.....	47	Colorado.....	17

It is significant to note that two states—Florida and North Carolina—which rank high in the number of defaults, also had the largest increases in local indebtedness between 1912 and 1932, the percentages being 2,779.01 and 1,300.8 respectively. The indebtedness of Maine during the same period increased only 73.2 per cent, while that of Massachusetts increased only 99.2 per cent. Maine

had three incorporated places in default in 1939 and Massachusetts had none.

While no data are available regarding the volume of municipal bonds in default, it can reasonably be stated that the volume of such defaults has declined during the past year.

### DEBT ADJUSTMENT LEGISLATION

For the purpose of aiding municipalities which are in default on their obligations, various states have recently passed state receivership and debt adjustment acts. Boards or commissions have been established to supervise local indebtedness in general, to supervise the refunding of municipal bonds, and to act as receivers in event of failure to meet debt service.

A Federal Municipal Bankruptcy Act was enacted May 24, 1934. This act, which was declared unconstitutional by the Supreme Court of the United States in May, 1936, was designed to enable any taxing district, with the consent of its creditors and the approval of a Federal District Court, to adjust its debt structure. According to the *Bond Buyer*, only 27 cities, one county, one school district, 41 irrigation districts, and one road district filed petitions under the Municipal Bankruptcy Act during the two years which the law was in effect.

On Aug. 16, 1937, President Roosevelt signed a new Municipal Bankruptcy Act, designed to replace the original measure which was declared unconstitutional. The present law is similar in its provisions to the invalidated law. It provides a procedure whereby insolvent taxing agencies, such as local drainage, levee, irrigation, road, and sewer districts, as well as towns, boroughs, and municipalities, may effect compositions with their creditors. These compositions would be approvable only when the districts or agencies filed voluntary proceedings in bankruptcy accompanied by plans approved by 51 per cent of all the creditors of the district or town. The



## VII. PUBLIC FINANCE AND TAXATION

plan of composition can not be confirmed unless accepted in writing by creditors holding at least 66⅔ per cent of the aggregate amount of the indebtedness of the petitioning district or taxing agency, unless the judge is satisfied that the taxing district was authorized by law to carry out the plan and there had been a

finding by the court that the plan was fair, equitable, and for the best interests of the creditors. The jurisdiction conferred by the act terminates June 30, 1940. According to the *Bond Buyer*, 142 municipalities have filed petitions under the 1937 Federal Municipal Bankruptcy Act.

### INCOME TAXES

BY LUCY WINSOR KILLOUGH

PROFESSOR, WELLESLEY COLLEGE

#### FEDERAL INCOME TAX

**Personal.**—The "Revenue Act of 1939" was approved by the President on June 29. It is a relatively brief act with four titles of which "Title II", the longest, contains income tax amendments. No basic changes were made in the personal income tax in 1939. The rate structure and personal exemptions remain as before. The normal tax is 4 per cent, the surtax ranges from 4 per cent on surtax net incomes in excess of \$4,000 and not in excess of \$6,000 to 75 per cent on surtax net incomes in excess of \$5,000,000. The personal exemptions are \$1,000 for a single person, \$2,500 for a head of a family, and \$400 for each dependent under 18 years of age.

A new group of personal income tax payers was added to the Federal list by the Public Salary Tax Act of 1939. This act, which was signed by the President on April 12, imposes the Federal personal income tax on the salaries of state and local employees. Two Supreme Court decisions rendered on March 27 overruled earlier decisions in respect to the immunity of such incomes from Federal taxation. The new law is not retroactive. It has been estimated that it will increase the yield of the Federal personal income tax by about \$16,000,000.

**Corporate.**—The new corporate income tax provisions were intended to lessen the tax burden on business. The undistributed profits tax which was retained with a nominal rate in 1938 was repealed in 1939. The rate

on corporations with incomes in excess of \$25,000 is set at 18 per cent. Corporations with incomes of not more than \$25,000 are subject to a graduated rate ranging from 12½ per cent to 16 per cent. An alternative tax applicable only to corporations with incomes "slightly more than \$25,000" is provided to lessen the sharpness of the transition from the graduated rate to the 18 per cent rate. The act also makes some changes in respect to determination of losses, treatment of indebtedness and a number of minor matters.

**Revenue from Federal Tax.**—Revenues from both personal and corporate income taxes were less in the fiscal year ended June 30, 1939 than in the preceding fiscal year. Personal income tax collections were 20 per cent less, and corporate income tax collections 14 per cent less than in the year ended June 30, 1938. With the exception of the 1937-38 fiscal year, however, total income tax collections in 1938-1939 were greater than in any year since 1929-1930. The proportion of all Federal taxes from these sources decreased from 43 per cent in 1937-1938 to 39.3 per cent in 1938-1939. For comparisons for the past four years see next page.

#### STATE INCOME TAXES

**Maryland.**—Although 44 state legislatures met in 1939 there were few changes in income tax legislation. Maryland was faced with the necessity of providing a substitute for her flat tax of .5 per cent on personal and

# INCOME TAXES

## FEDERAL INCOME TAX COLLECTIONS

Fiscal Year	Income Tax Collections (in thousands of dollars)			Per Cent of all Federal Taxes* from Income Tax
	Corporation Tax	Personal Tax	Total Tax	
1938-39	1,122,541	1,028,834	2,151,375	39.3
1937-38	1,299,932	1,286,312	2,586,244	43.0
1936-37	1,056,923	1,091,741	2,148,664	41.8
1935-36	738,522	674,416	1,412,938	36.2

\* Customs collections and internal revenue taxes.

## DIGEST OF STATE PERSONAL INCOME TAX PROVISIONS

State	Year First Effective	Personal Exemption			Rate of Tax (per cent)	Amount of Taxable Income in Excess of which Maximum Rate Applies
		Single	Head of Family	Depen- dents		
Alabama.....	1933	\$1,500	\$3,000	\$300	1½-5	\$5,000
Arizona.....	1933	10 <sup>a</sup>	20 <sup>a</sup>	4 <sup>a</sup>	1-4½	9,000
Arkansas.....	1929	1,500	2,500	400	1-5	25,000
California.....	1935	1,000	2,500	400	1-15	250,000
Colorado.....	1937	1,000	2,500	400	1-6 <sup>b</sup>	10,000
Delaware.....	1917	1,000	2,000	200	1-3	20,000
District of Columbia....	1939	1,000	2,500	400	1-3	20,000
Georgia.....	1929	1,000	2,500	400	1-7	20,000
Idaho.....	1931	700	1,500	200	1½-8	5,000
Iowa.....	1934	10 <sup>a</sup>	20 <sup>a</sup>	5 <sup>a</sup>	1-5	4,000
Kansas.....	1933	750	1,500	200	1-4	7,000
Kentucky.....	1936	1,000	2,500	400	2-5	5,000
Louisiana.....	1934	1,000	2,500	400	2-6	50,000
Maryland.....	1937	1,000 <sup>c</sup>	2,000 <sup>c</sup>	400 <sup>c</sup>	2½-6 <sup>c</sup>	....
Massachusetts.....	1916	2,000 <sup>d</sup>	2,500 <sup>d</sup>	400 <sup>d</sup>	1½-6 <sup>e</sup>	....
Michigan.....	1939	7 <sup>a</sup>	7 <sup>a</sup>	....	6 <sup>f</sup>	....
Minnesota.....	1933	10 <sup>a</sup>	30 <sup>a</sup>	5 <sup>a</sup>	1-10	20,000
Mississippi.....	1912	1,000	2,500	400	3-6½	15,000
Missouri.....	1917	1,000	2,000	200	1-4	9,000
Montana.....	1933	1,000	2,000	300	1-4	6,000
New Hampshire.....	1923	200	200	....	<sup>g</sup>	....
New Mexico.....	1933	1,500	2,500	200	1-4	100,000
New York.....	1919	1,000	2,500	400	2-7 <sup>h</sup>	9,000
North Carolina.....	1921	1,000	2,000	200	3-7	10,000
North Dakota.....	1919	500	1,500	200	1-15	15,000
Ohio.....	1931	....	....	....	5 <sup>i</sup>	....
Oklahoma.....	1908	850	1,700	300	1-9	8,000
Oregon.....	1930	800 <sup>j</sup>	1,500 <sup>j</sup>	300 <sup>j</sup>	2-7 <sup>k</sup>	4,000
South Carolina.....	1922	1,000	1,800	200	2-5 <sup>l</sup>	6,000
South Dakota.....	1935	6 <sup>a</sup>	12 <sup>a</sup>	2 <sup>a</sup>	1-8	318,000
Tennessee.....	1929	....	....	....	4-6 <sup>m</sup>	....
Utah.....	1931	600	1,200	300	1-5	4,000
Vermont.....	1931	1,000	2,000	250	2-4 <sup>n</sup>	....
Virginia.....	1843	1,000	2,000	200	1½-3	5,000
West Virginia.....	1935	1,000	2,000	300	1-4	3,000
Wisconsin.....	1911	8 <sup>a</sup>	17.50 <sup>a</sup>	4 <sup>a</sup>	1-7 <sup>o</sup>	12,000

(<sup>a</sup>) Deduction from tax. (<sup>b</sup>) Additional 2% surtax without exemption on income from securities. (<sup>c</sup>) 2½% of ordinary income and 6% of investment income, deductions and exemptions from all income on basis of 2½% rate. (<sup>d</sup>) Exemptions apply to earned income. (<sup>e</sup>) Earned income and annuities 1½%; capital gains 3%; interest and dividends 6%; all plus an additional 15% of tax. (<sup>f</sup>) On income from certain intangibles only — tax not to be less than .1% nor more than .3% of face value of taxed intangibles. (<sup>g</sup>) Average rate on real estate, applies only to income from dividends and interest. (<sup>h</sup>) Plus an "emergency" 1% which has been extended for another year. (<sup>i</sup>) On income from intangibles only. (<sup>j</sup>) Exemptions given apply to normal tax — surtax exemptions \$500 for single persons and \$800 for heads of families. (<sup>k</sup>) Plus a 2% surtax on income from intangibles, taxpayer's combined normal and surtax not to exceed 8% of net income. (<sup>l</sup>) Additional tax on income from interest and dividends from 3 to 5% on all such incomes over \$500. (<sup>m</sup>) On dividends and interest only; 4% on dividends when at least 75% of corporate property assessable in Tennessee, 6% on other dividends and interest. (<sup>n</sup>) 2% on earned income; 4% on interest and dividends. (<sup>o</sup>) Plus a surtax of one-sixth of the tax after certain exemptions.

## VII. PUBLIC FINANCE AND TAXATION

corporate incomes which had been enacted for 1937 and 1938 only. Plans for graduated rates could not be carried out because of the defeat, in November 1938, of a constitutional amendment permitting graduation. The law enacted in 1939 provides for a tax on individual incomes to be computed by adding 6 per cent of the investment income to  $2\frac{1}{2}$  per cent of ordinary income and subtracting from the amount thus arrived at  $2\frac{1}{2}$  per

cent of allowable deductions and exemptions. The corporate income tax rate is set at  $1\frac{1}{2}$  per cent.

**Other States and District of Columbia.**—In Michigan legislation was passed taxing at 6 per cent the income from certain intangibles. In Massachusetts the extra tax of 10 per cent of the computed tax was increased to 15 per cent. Most states plan to take advantage of the Supreme Court decisions of March 27,

### DIGEST OF STATE CORPORATION INCOME TAX PROVISIONS

State	Year First Effective	Kinds of Corporations Exempt	Amount of Income Exempt (Dollars)	Rate of Tax (per cent)
Alabama.....	1933		....	3 <sup>a</sup>
Arizona.....	1933	Insurance		1-5 <sup>b</sup>
Arkansas.....	1929	Foreign Insurance.....	\$1,500	2
California.....	1929			4
Colorado.....	1937	Insurance	....	4 <sup>c</sup>
Connecticut.....	1915	Insurance, public utilities	....	2
District of Columbia...	1939	Insurance, banks	....	5
Georgia.....	1930	Insurance banks	....	5 $\frac{1}{2}$
Idaho.....	1931		....	1 $\frac{1}{2}$ -8 <sup>d</sup>
Iowa.....	1934	Insurance, banks	....	2
Kansas.....	1933	Banking	....	2
Kentucky.....	1936	Insurance, banks	....	4
Louisiana.....	1934		....	4
Maryland.....	1937	Banks	....	1 $\frac{1}{2}$
Massachusetts.....	1919	Public utilities, insurance	....	2 $\frac{1}{2}$ <sup>e</sup>
Michigan.....	1939	Insurance, transportation and communication, banks	\$7.00 <sup>f</sup>	6 <sup>g</sup>
Minnesota.....	1933	Banks, mines	\$1,000	6
Mississippi.....	1914	Banks	\$1,000	3-6 $\frac{1}{2}$ <sup>h</sup>
Missouri.....	1917	Express, insurance	....	2
Montana.....	1917		....	3 <sup>i</sup>
New Mexico.....	1933	Insurance, banks	\$1,000	2
New York.....	1917	Real estate, public utilities, insurance	....	6 <sup>j</sup>
North Carolina.....	1921		....	6
North Dakota.....	1919	Insurance, banks	....	3-6 <sup>k</sup>
Ohio.....	1931		....	5 <sup>k</sup>
Oklahoma.....	1931		....	6
Oregon.....	1930	Insurance, real estate	....	8 <sup>l</sup>
Pennsylvania.....	1935	Insurance, banks	....	7
South Carolina.....	1922		....	4 $\frac{1}{2}$
South Dakota.....	1935	Express, mining	....	1-8 <sup>m</sup>
Tennessee.....	1931		....	3 $\frac{3}{4}$
Utah.....	1931		....	3 <sup>n</sup>
Vermont.....	1931	Public utilities, insurance, banks	....	2
Virginia.....	1927	Public utilities, insurance, banks	....	3
Wisconsin.....	1911	Railroads, car, insurance, mutual savings banks	....	1-6 <sup>o</sup>

(<sup>a</sup>) Banks taxed by an excise tax "measured" by net income at 6%. (<sup>b</sup>) Maximum rate applies to all income over \$6,000. (<sup>c</sup>) Banks at 6%. (<sup>d</sup>) Maximum rate applies to all income over \$5,000. (<sup>e</sup>) Bank rate to be determined by Commission, not to exceed highest rate applied to business corporations. (<sup>f</sup>) Deduction from tax. (<sup>g</sup>) On income from certain intangibles only — tax not to be less than .1% nor more than .3% of face value of taxed intangibles. (<sup>h</sup>) Maximum rate applied to all income over \$15,000. (<sup>i</sup>) Minimum tax of \$5.00. (<sup>j</sup>) Also a 4% tax on the income of unincorporated businesses. (<sup>k</sup>) On income from intangibles only. (<sup>l</sup>) Offset for personal property tax up to 50% of corporate excise. (<sup>m</sup>) Banks at 3%; maximum rate applied to income over \$318,000. (<sup>n</sup>) Or 1/20 of 1% of value of tangible property, whichever is greater, less property tax offset up to  $\frac{1}{3}$  of tax. (<sup>o</sup>) Plus a surtax of  $\frac{1}{6}$  of the normal tax less \$75; Maximum rate applies to all income over \$6,000.

## INCOME TAXES

1939 which permit them to tax Federal salaries. Congress enacted a law for the District of Columbia which taxes both personal and corporate incomes. The personal tax is graduated from 1 to 3 per cent and the corporation rate is 5 per cent. In Philadelphia the city tax of  $1\frac{1}{2}$  per cent which was passed in November 1938 was repealed early in January 1939. On Dec. 13, 1939 the Philadelphia City Council passed a new ordinance imposing a  $1\frac{1}{2}$  per cent tax on earned income.

The present status of state income taxes is as follows: 32 states and the District of Columbia are taxing both personal and corporate income. Ohio and Michigan tax income from intangibles only. The Tennessee personal income tax is on intangibles only but the corporate income tax is on all corporate income. Delaware, New Hampshire, and West Virginia tax personal income only. The New Hampshire tax is on income from intangibles only. In 28 of the 35 personal income tax states and in the District of Columbia the rates are progressive. Connecticut and Pennsylvania tax only corporate income. Altogether 37 states and the District of Columbia levy some form of net income tax.

**Corporation Rates.**—Twenty-eight states and the District of Columbia tax the income of corporations at flat rates ranging from  $1\frac{1}{2}$  per cent to 7 per cent (not including Oregon because of the personal property tax offset). Six states apply graduated rates to corporate incomes; of these the highest rate is 8 per cent. New York state levies a tax of 4 per cent on the incomes of unincorporated businesses.

### PRODUCTIVITY OF STATE INCOME TAXES

Productivity of state income taxes varies greatly among the separate states. Comparisons between the absolute figures are of limited value because of the differences in the sizes of the states. New York leads with collections of \$149,000,000 followed by California with \$41,000,000, Pennsylvania with \$28,000,000, Massachusetts

with \$23,000,000, Wisconsin with \$15,000,000, and Minnesota with \$10,000,000. In all the other states collections were less than \$10,000,000. Comparable data on state income tax collections in 1938 and in 1939 were available for 34 states; of these, collections were larger in 1938 in 28 states and in 1939 in six states. In five states—New York, Massachusetts, Missouri, Wisconsin, and Idaho—15 per cent or more of state collected revenues were derived from income taxes. In ten states less than 5 per cent of state collected revenues were derived from income taxes. Since there is wide variation in accounting methods and in forms of reporting revenue collections among the states these percentages must be regarded as approximations with unfortunately wide margins of error.

The differences in income tax yields among the states cannot be attributed to any single factor. The rates, exemptions, number and size of brackets and efficiency of administration vary widely among the states. All of the states do not make separate reports of personal and corporate income tax collections. For those which do so report, the total collections of personal income taxes are greater than of corporate income taxes. This is due to a considerable extent to the importance of personal income taxation in Massachusetts and New York. In some states the differences in amounts of personal and corporate income tax collections are very slight and in at least 11 states the corporate collections exceed the personal income tax collections.

It is difficult to define precisely the extent to which state income tax collections are shared with local governments. In about a third of the income tax states some of the income tax collections are turned over directly to local governments. New York distributes the largest sum to the localities, but a number of states distribute a larger proportion of their total collections. In Minnesota, New Hampshire and Ohio the entire income tax collections less expenses are turned over to local governments. In several states large proportions of in-



# VII. PUBLIC FINANCE AND TAXATION

come tax revenues are spent directly by the states in support of services which might otherwise be locally sup-ported. The most noteworthy of these services are education and relief.

## REVENUE FROM STATE INCOME TAXES

State	Income Tax Collections (in thousands of dollars)			Income Tax Revenues Returned to Local Gov- ernments (thousands of \$'s)	Per Cent of Total State Collected Revenues Derived from Income Taxes <sup>a</sup>	Year Ending
	Personal	Corporate	Total			
Alabama.....	1,127	1,454	2,581	0	6 <sup>b</sup>	Sept. 30, 1938
Arizona.....	410	534	944	0	5	June 30, 1939
Arkansas.....	485 <sup>c</sup>	200 <sup>c</sup>	685	0	3 <sup>c</sup>	July 1, 1939
California.....	20,672	20,230	40,902	0	13 <sup>d</sup>	June 30, 1939
Colorado.....	1,293	768	2,061	0	4	June 30, 1939
Connecticut.....	0	2,936	2,936	0	5 <sup>d</sup>	June 30, 1939
Delaware.....	1,097	0	1,097	0	9 <sup>d</sup>	June 30, 1939
District of Columbia.....		law enacted in 1939				
Georgia.....	2,305	2,717	5,022	0	12	June 30, 1939
Idaho.....	3,488	773	2,239	0	15 <sup>d</sup>	Dec. 31, 1938
Iowa.....	1,362 <sup>h</sup>	870 <sup>h</sup>	2,201	0	9	June 30, 1939
Kansas.....	1,960	1,500	3,460	0	4	June 30, 1939
Kentucky.....	2,615	2,893	5,508	0	8	June 30, 1939
Louisiana.....	529	297	874 <sup>i</sup>	0	7 <sup>d</sup>	June 30, 1939
Maryland.....	18,797	3,911 <sup>j</sup>	22,708	15,966	18	Sept. 30, 1939
Massachusetts.....		Intangible income tax law enacted 1939				Nov. 30, 1939
Michigan.....	6,508	3,787	10,295	0	7	June 30, 1939
Minnesota.....		"	1,710	0	5	June 30, 1939
Mississippi.....		"	7,125	0	17	Dec. 31, 1938
Missouri.....	435	404	839	0	3	June 30, 1939
Montana.....	690	0	690	667	3	June 30, 1939
New Hampshire.....		p	555	368	2	June 30, 1939
New Mexico.....	106,653	42,147	148,800	27,630 <sup>q</sup>	28 <sup>d</sup>	June 30, 1939
New York.....	2,075 <sup>r</sup>	6,700 <sup>r</sup>	8,775	0	12 <sup>d</sup>	June 30, 1939
North Carolina.....			419	0	4 <sup>s</sup>	June 30, 1939
North Dakota.....			6,298	6,046	3	Dec. 31, 1938
Ohio.....	2,486	4,658	7,144	0	11	June 30, 1939
Oklahoma.....	3,671	1,800	5,471	0	8	Dec. 31, 1938
Oregon.....	0	28,184	28,184	0	10 <sup>b</sup>	May 31, 1938
Pennsylvania.....	1,196	1,574	2,770	0	10 <sup>d</sup>	June 30, 1939
South Carolina.....			559	0	3	June 30, 1938
South Dakota.....	1,410	1,793	3,203	335 <sup>c</sup>	7	June 30, 1939
Tennessee.....	692	1,018	1,710	0	7	June 30, 1939
Utah.....			719	0	10	June 30, 1939
Vermont.....	2,161	2,077	4,238	0	8 <sup>d</sup>	Sept. 30, 1939
Virginia.....	1,299	0	1,299	0	3 <sup>d</sup>	June 30, 1939
West Virginia.....	8,410	6,319	14,729	6,144	16 <sup>d</sup>	June 30, 1939
Wisconsin.....						

(a) It is impossible to obtain completely consistent, up to date figures from all the states showing total state collected revenues. Therefore, the per cents in this column have been computed on varying bases and must be regarded as giving perfectly accurate indications of the importance of income tax collections to the separate states. (b) Per cent of total tax collections as given in *Tax Policy*, Dec. 1938-Jan. 1939. (c) Approximate. (d) Per cent of total tax collections as given in U. S. Department of Commerce, State and Local Government Special Study No. 7, Oct. 31, 1939. (e) Allocation of October 1939 apportioned 35% to County School Fund and 65% to State General Fund. (f)  $\frac{2}{3}$  from corporation and  $\frac{1}{3}$  from personal in biennium 1938-39. (g) After other payments balance to County Treasurers for Homestead Credit Fund. (h) Before deduction of refunds. (i) Includes \$48,000 from fiduciaries. (j) Sharing with local governments not provided until 1939 law. (k) Total state collected revenues not available. (l) Portion of corporate excise derived from income in year ending Nov. 30, 1938. (m) Entire tax except expenses and refunds to school districts. (n) About 50% each from personal and corporate income. (o) 50% of the personal and 25% of corporate allocated to schools. (p) About 40% from personal and 60% from corporate income. (q) in 1938. (r) Budget estimates. (s) Per cent of General Fund collections plus sales tax and motor vehicle registrations. (t) 35% allocated to schools.

## LAND AND PROPERTY TAXES

### LAND AND PROPERTY TAXES

By FRANK BAIN

CREDIT UNION SECTION, FARM CREDIT ADMINISTRATION

#### ADMINISTRATIVE BODIES

The state laws of 1939 provided for reorganization of the previously existing administrative bodies and the creation of new ones. A Board of Equalization was created for each county by Alabama (S.B. 14). Nevada amended her revenue laws and provided for a State Tax Commission and a State Board of Equalization (H.B. 124). A Tax Commission of three members was created by Oklahoma (S.B. 3).

There occurred a reorganization of administrative bodies in five states. In three counties of Georgia the office of tax commissioner replaces the offices of tax receiver and tax collector (H.B. 240, 417, 422). The State Department of Taxation of Kansas supersedes the Tax Commission and the Department of Inspection and Registration (H.B. 517). Michigan abolished the Public Utilities Commission and created a Public Service Commission to regulate all public utilities except those municipally owned (H.B. 108). To its new Tax Department Ohio assigned the duties of the abolished Tax Commission (S.B. 159). The Tax Commission of Wisconsin was reorganized (A.B. 689). Idaho assigns to the tax commissioner the duty of collecting kilowatt, malt, chain store and other taxes (H.B. 179).

#### GENERAL REVENUE LAWS

A General Revenue Act was enacted by North Carolina (H.B. 13). Amendments were made to the general revenue laws by Maryland (S.B. 96) and Washington (S.B. 113). California established a Revenue and Taxation Code, consolidating the laws relating to property (A.B. 1843). The Revenue Act of Illinois recodified the property tax laws (H.B. 310). The New Jersey Commission on Tax Law Revision, created in

1938, was continued until July 1, 1940 (S.B. 408).

#### LEVY

Authorizations of tax levies include general and specific purposes. For general state purposes Florida authorized a levy upon property in the counties of the state to meet current state expenses for 1939 and 1940 (H.B. 1912). Kansas extended for two years the provisions relating to tax levies where a deficiency is apparent (S.B. 90).

The state personal property tax of four mills was extended by Pennsylvania for 1940 and 1941 (H.B. 318). Although a house bill (H.B. 227) of the Delaware legislature repealed the personal property tax the Senate bill (S.B. 325) restored the levy on lands under lease and on buildings and equipment maintained on such lands. North Dakota provided for a deduction from public salaries for payment of personal property taxes (S.B. 104). Radios were added to the list of personal property taxed by Maine (H.B. 1835). Ohio rendered taxable all dividends on stock, except stock of the declaring corporation and liquidating dividends (S.B. 317).

Three states sought to obtain revenue on property and activities of the United States. Alabama made taxable all property and activities of the United States and its agencies, which may be constitutionally taxed (H.B. 57). A tax was levied by Georgia on property used by Federal corporations not engaged in governmental functions (H.B. 730). Montana authorized the state, counties and subdivisions to enter into agreements with the United States to pay, in lieu of taxes, on property taken over for resettlement and rehabilitation (H.B. 345, 346).

As evidence of continuing and expanding social demand for receiving welfare services from the govern-

## VII. PUBLIC FINANCE AND TAXATION

mental bodies, to be paid for through the medium of taxation, there were placed on statute books of several states the property levies for poor relief, hospitalization, aid to widows, fire prevention funds, parks, schools and libraries. Counties and municipalities of Nebraska may levy one-half mill tax for poor relief purposes (L.B. 15). Georgia permits counties to levy a tax up to one mill to provide medical aid and hospitalization for the indigent sick (S.B. 23). The county commissioners of any county of Florida, having a population of 180,000, may levy a tax of four mills on all property to maintain a home for poor persons and for dependent and delinquent children (H.B. 1771). Tuberculosis sanitarium may be supported out of county property tax levies in Illinois (H.B. 503). In Iowa widows with dependent children may expect support out of property taxes levied by counties (H.F. 84). In Arizona a one-mill tax is authorized for support of volunteer fire departments (H.B. 23); and Iowa authorizes townships to levy an annual tax of up to one mill for purchase, renting or maintaining fire apparatus (H.F. 71). Specified cities of Iowa are allowed an additional levy of up to three-eighths of one mill for park purposes (S.F. 88).

Laws affecting schools were adopted by six states. Illinois amended the School Act of 1909 to levy a tax of \$1,150,000 for free text books in Chicago (S.B. 353). Additional ordinary and emergency school levies are allowed in Idaho (H.B. 312, 405). North Carolina authorizes creation of school districts and issuance of bonds by them (H.B. 247). For educational purposes Montana provides for an increase of  $3\frac{1}{2}$  mills for ten years in the state property tax rate. This is subject to approval at the general election of November, 1940 (H.B. 183). In Utah the State Tax Commission is to estimate and determine the state tax levy for school purposes (S.B. 119). School funds are provided by Idaho and Washington. Idaho authorizes appropriations to school funds, and tax levies to raise the amount appropriated (H.B. 417). A

maximum tax of five mills on all property may be levied in Washington for the common school fund (H.B. 184).

In four states tax levies were provided for support of libraries. Connecticut authorizes a town library service levy (S.B. 704). Mecklenburg County of North Carolina may levy a special annual tax for support of libraries (H.B. 586). Kansas increases the tax limitation for library purposes in first class cities from four-tenths to five-tenths of one mill (H.B. 453). School districts in Washington may levy a tax of two mills for support of free public libraries (S.B. 135).

A unique law is that of Kansas which authorizes cities of 33,000 or less population to levy taxes in order to create an industrial fund. This is intended to be used for encouraging the establishment of factories.

### ASSESSMENT

The assessment laws enacted were of heterogeneous character. The non-operated railroad property in Connecticut is to be assessed locally (S.B. 216). The true monetary value is the basis of assessment of real and personal property in North Carolina (H.B. 45). In North Dakota general merchandise is assessable at average value (S.B. 212). Georgia authorizes the Board of Tax Assessors and Receivers of Atlanta arbitrarily to assess property not returned or grossly undervalued (S.B. 60). Ore piled in stacks is assessed as if unmined ore by Minnesota (H.B. 12). In Alabama the county boards of equalization are to fix the value of property for tax purposes (H.B. 868). Massachusetts provides for quadriennial establishment of state and county taxes (Ch. 346). Those in Oklahoma who have property assessment grievances may have their cases reviewed by the respective county excise boards (H.B. 397), and adjudicated in the district and superior courts (H.B. 28).

### LIMITATION OF TAX RATE

Several states enacted new tax rate limits while other states, finding the ceiling previously established too low,

## LAND AND PROPERTY TAXES

enacted or sought higher limits. Thus farm and ranch lands in North Dakota may be levied upon only to a specified limit (S.B. 41); while in Nevada the state's levy upon any of the property may not exceed 58 cents on \$100 valuation (H.B. 254). The tax rate ceiling was raised for municipalities of Ohio (H.B. 260); and taxing authorities were allowed to exceed the 10-mill limitation for service on debts incurred prior to 1931 (S.B. 319). A maximum rate was provided for health districts of Nebraska (L.B. 131). This state also limited the county boards to a levy of two mills for the general fund when there is a deficiency to cover. Colorado and South Dakota increased the high school district tax rates, the former from four to five mills (H.B. 1280) and the latter to four mills (H.B. 99). Finding it necessary to improve her asylum for the insane Montana sought to acquire a debt of \$500,000 in excess of the constitutional limit. The proposition is scheduled for a vote in November, 1940 (H.B. 273).

### TAX DELINQUENCIES, WAIVERS AND ABATEMENTS

Installment payment of delinquent taxes was provided for by four states. In Arizona, those who were delinquent prior to November, 1938 may make payment in 20 semi-annual installments (S.B. 129). New Jersey permits collection of delinquent municipal liens over a five-year period (Ch. 88). In North Dakota a 5 per cent discount was offered for payment of taxes prior to date of delinquency (S.B. 49). The delinquent taxes may be paid in ten installments, at 4 per cent interest (H.B. 194). Washington authorized installment contracts for payment of delinquent taxes (S.B. 51).

Missouri amplified her law on delinquent taxes (H.B. 555) and outlined the procedure for sale of lands for taxes (H.B. 677). Tax delinquents are required by Michigan to file a bond (S.B. 301). In Arkansas the improvement districts may foreclose on lands for nonpayment of taxes (S.B. 315) within a specified time limit (S.B. 27).

Oklahoma waived penalties, interest and accrued costs on unpaid taxes on homesteads (S.B. 122). Penalties were reduced by California (A.B. 125) and South Dakota (S.B. 62) on delinquent taxes.

### TAX LIENS AND TAX SALES

Rhode Island takes a lien on real property for unpaid taxes (S.B. 159). In Connecticut certain personal property set in a grand list is subject to a lien for unpaid taxes (H.B. 89). Easements are excepted from tax sales in New Mexico (S.B. 25). In that state the district courts may sell certain properties which are under the assessment liens. California provides that property deeded to the state for taxes since 1929 shall not be sold until 1941 (A.B. 691); and property already sold for taxes may be redeemed before April, 1940 (A.B. 692).

North Carolina authorized the Council of State to settle, adjust, or compromise any claims for taxes which the state may have against any of the counties (H.B. 786). The county boards of tax arrears in New York were authorized to examine all costs where the county, town, or village shall have acquired a tax lien or tax sale certificate (S.B. 699).

### TAX EXEMPTIONS

Two Southern states—Alabama and South Carolina—provide for exemption from property taxes of new manufacturing establishments, for limited time periods (Ala., H.B. 896; S.C., H.B. 233). Cemetery property is exempt in New York, in counties of not less than 16,000 population (A.B. 1707); idle manufacturing property in Rhode Island (S.B. 188); property in transit and carried by common carriers in Maine (H.B. 298); property of landlords of indigent persons in Ohio (S.B. 259); and increases in value of property due to alterations or improvements, completed prior to 1941, in New York city (S.B. 684). Delaware exempts tangible and intangible personal property, with few exceptions, from the property tax by the state or any subdivision (H.B. 227). Only one state passed a law on mortgage taxation, Indiana limiting



## VII. PUBLIC FINANCE AND TAXATION

the exemption of mortgage indebtedness to residents of the state (S.B. 155).

Homesteads are exempt by South Dakota (H.B. 22). Utah exempts household furniture up to \$300 (S.B. 110). Iowa's law was made to apply to homesteads of veterans (S.F. 183). A Maine law is unique by reason of the persons to whom it applies; it exempts the property of veterans of the

Philippine insurrection (H.B. 1344).

Credit unions, whose assets generally consist almost wholly of cash and notes receivable, are recognized by California and Utah in tax exemption legislation. California's revised Credit Union Act provides for certain tax exemptions (Ch. 166). Utah exempts entirely the credit unions from any form of taxation (H.B. 74).

### CORPORATION AND BANK TAXES

By FRANK BAIN

CREDIT UNION SECTION, FARM CREDIT ADMINISTRATION

#### FEDERAL CORPORATION TAXES

Until the month of May President Roosevelt was firmly opposed to removal or reduction of any corporation taxes which the corporate managements considered irritating. Urged by Congressmen and the press the President changed his position by the first week of June and agreed with Henry Morgenthau, Secretary of the Treasury, Senator Pat Harrison, and others that Congress proceed with tax revision.

In June the House of Representatives passed, with one dissenting vote, a tax-appeasement bill. It provided for: abolition of the undistributed profits tax, which during the preceding year was at the maximum of 2½ per cent; substitution of a flat, in place of a graduated, rate of 18 per cent on corporations earning over \$25,000 net profits; permitting a two-year, in place of one-year, carry-over of losses and removing the \$2,000 loss limit; permitting upward revaluation of stocks for two years to reduce the corporate excess profits taxes. No change was made in the rate of tax on corporations earning profits of \$25,000 or less. For these the graduated tax rate of 12½ to 16 per cent continues. The House bill was passed by the Senate unanimously.

Not satisfied with the existing corporate tax structure the United States Chamber of Commerce, on Nov. 11, released to the press a body of recommendations for tax revision. It asked

for reduction of corporate income tax rate to 15 per cent; for a restoration of the right to file consolidated returns by corporations affiliated by 95 per cent of stock ownership, at present required to file separate returns; for elimination of double taxation of dividends by exempting inter-corporate dividends from corporation income tax and the dividends received by natural persons from the personal normal income tax; for simplification of capital gains and losses provisions and reduction of the rate to 12½ per cent; and for extension of the present two-year carry-over of losses.

#### STATE CORPORATION TAXES

New Jersey revised the procedure for collection of corporation franchise taxes (A.B. 368), and New Mexico amended the franchise tax law relative to the definition of domestic corporations (Ch. 133). There was an increase in the rate on corporate excess in Rhode Island (H.B. 856). Corporate privileges and corporate entity were restored by Florida to corporations dissolved for having failed to pay the capital stock tax (H.B. 3). New Jersey municipalities may compromise taxes with bankrupt corporations (A.B. 239). A minimum business tax was levied by Connecticut on miscellaneous corporations (S.B. 978). For the years 1939 and 1940 the corporate excise tax was increased by Massachusetts (H.B. 2563). New York required the cooperative agricultural

## CORPORATION AND BANK TAXES

corporations, which are subject to corporate taxation, to file reports (A.B. 530). Pennsylvania extended the corporate net income tax rate of 7 per cent for the years 1939 and 1940 (H.B. 317). The investors' syndicates in Tennessee were required to pay a gross receipts tax (S.B. 872).

### STATE UTILITIES

A gross receipts tax of 1/100 of one per cent was levied by Vermont on railroad, express and telegraph companies and 1/10 of one per cent on all other companies, subject to supervision by public service commission, for the purpose of providing an engineering force (H.B. 336). Pennsylvania continued her 20-mill public utilities gross receipts tax until the end of 1940 (H.B. 314). In Montana the properties of railroad, natural gas pipe line and oil pipe line companies, and other specified utilities, are to be assessed by the State Board of Equalization. The assessments for general property tax purposes are to be transmitted to the county assessors (H.B. 33, 37). Tennessee requires utilities and railroads to pay taxes which are under protest (H.B. 217). A law was enacted by Indiana exempting the municipally owned utilities of the cities and towns from payment of taxes (S.B. 52). Rhode Island increased the tax on corporate excess and included electric, telephone and telegraph companies under its scope (H.B. 856).

### INSURANCE COMPANIES

North Dakota requires that the gross premium tax of 2½ per cent be paid for the preceding year before permission is granted to operate for the ensuing year (S.B. 69); and South Dakota levies a rate of 1 per cent on gross premiums derived within the state (H.B. 258). Foreign insurance

companies operating in New Hampshire are to pay 2 per cent on gross receipts (H.B. 127). The rates were increased in Nevada (H.B. 52). Taxes are levied by Maine and Nebraska to defray specific costs. Maine levies a filing fee on statements filed by foreign insurance companies (H.B. 1864); and Nebraska levies a tax on insurance companies for the benefit of volunteer fire departments (L.B. 59).

The subject of taxing reinsurance premiums has received consideration in four states. Florida levied a tax on all premiums received on life or property, less reinsurance premiums received but without deduction for premiums ceded on reinsurance. Returned premiums are excluded from the base (H.B. 743). Of like tenor are the laws enacted by Oregon (H.B. 67), Texas (H.B. 556) and Vermont (H.B. 326). California amended the insurance code relating to brokers' and solicitors' qualifications and licenses (Ch. 221).

### BANK TAXES

Legislation affecting banks was enacted in only four states. California amended the corporation and franchise tax law and made many changes concerning gross income deductions and determination of gain or loss (A.B. 1812). Montana provided for a deduction of the book value of real estate to determine the value of shares of a national bank. The real estate is assessed separately (H.B. 46). Pennsylvania continued the tax of eight mills on shares of title insurance and trust companies (H.B. 313) and on shares of banks and savings institutions (H.B. 315). The insurance departments of savings and insurance banks were required by Massachusetts to pay a tax (Ch. 447).

## VII. PUBLIC FINANCE AND TAXATION

### ESTATE AND INHERITANCE TAXES \*

By H. R. ENSLOW

NEW YORK STATE DEPARTMENT OF TAXATION AND FINANCE

#### RECIPROCITY

Reciprocity again became important in view of the decisions of the United States Supreme Court in *Curry v. McCanless* and *Graves v. Elliott* in 1939. Each decision found the court divided five to four.

It will be recalled that over a period of years some 34 American states and four Canadian provinces enacted reciprocal legislation. Several states have never enacted reciprocity laws or have repealed such laws so that in September 1939 only 25 states had such legislation in effect. Such laws provide for reciprocal exemption of intangible personal property in non-resident estates. That is, State "A" may undertake not to tax intangible personalty of a decedent domiciled in State "B", provided the latter state allows a similar exemption. Thus intangibles would be taxed only by the state of domicile.

In recent years a series of decisions noted in previous editions of THE AMERICAN YEAR BOOK indicated a trend toward elimination of multiple taxation of intangibles, thereby rendering the reciprocity statutes less significant. In the *McCanless* case the trend was reversed, the court permitting both Alabama and Tennessee to tax decedent's intangibles. In *Graves v. Elliott*, New York was permitted to tax "the relinquishment at death, by a domiciled resident of the State, of a power to revoke a trust of intangibles held by a Colorado trustee."

In the *Elliott* case the Court said: "The essential elements of the question presented here are the same as those considered in *Curry v. McCanless*. As is there pointed out, the power of disposition of property is the equivalent of ownership. It is a potential source of wealth and its exercise in the case of intangibles is the appropriate subject of taxation at the

place of domicile of the owner of the power. The relinquishment at death, in consequence of the non-exercise in life, of a power to revoke a trust created by a decedent is likewise an appropriate subject of taxation. . . . We cannot say that the legal interest of decedent in the intangibles held in trust in Colorado was so disassociated from her person as to be beyond the taxing jurisdiction of the State of her domicile more than her other rights in intangibles. Her right to revoke the trust and to demand the transmission to her of the intangibles by the trustee and the delivery to her of their fiscal evidences was a potential source of wealth, having the attributes of property. As in the case of any other intangibles which she possessed, control over her person and estate at the place of her domicile and her duty to contribute to the support of government there afford adequate constitutional basis for imposition of a tax measured by the value of the intangibles transmitted or relinquished by her at death." (For details of legal aspects in *Curry v. McCanless* and *Graves v. Elliott*, see texts of U.S. Supreme Court decisions.)

#### DOMICILE

The final chapter in the Green case was written by the U.S. Supreme Court in *State of Texas v. State of Florida et al*, decided March 13, 1939. The court held that it had original jurisdiction to decide the question of domicile where the issue constitutes a justiciable case or controversy between states; the decedent, Edward H. R. Green, was held to have been domiciled in Massachusetts at date of death. The Court said: "Residence in fact, coupled with the purpose to make the place of residence one's home, are the essential elements of domicile. . . . There was nothing in his life to connect him with a Texas

\* Based on Prentice-Hall Service.

## ESTATE AND INHERITANCE TAXES

home other than his frequent statements that his legal residence was in Texas. While one's statements may supply evidence of the intention requisite to establish domicile at a given place of residence, they cannot supply the fact of residence there and they are of slight weight when they conflict with the fact. This is the more so where, as here, decedent's declarations are shown to have been inspired by the desire to establish a nominal residence for tax purposes, different from his actual residence in fact. In such circumstances the actual fact as to the place of residence and decedent's real attitude and intention with respect to it as disclosed by his entire course of conduct are the controlling factors in ascertaining his domicile. When one intends the facts to which the law attaches consequences, he must abide the consequences whether intended or not."

In *Commonwealth of Massachusetts v. State of Missouri*, decided Nov. 6, 1939, the U.S. Supreme Court denied the motion of Massachusetts for leave to file a bill of complaint against Missouri relative to the Massachusetts inheritance tax on certain intangible property of a deceased resident of Massachusetts held in trust in Missouri on the ground that the bill of complaint did not present a justiciable controversy between the states or between Massachusetts and the citizens of Missouri. The Court also denied the Massachusetts contention that its residents should be entitled to immunity from taxation in Missouri because of Missouri legislation for reciprocal enforcement. "The enactment by Missouri of the so-called reciprocal legislation cannot be regarded as conferring upon Massachusetts any contractual right. Each State has enacted its legislation according to its conception of its own interest. Each State has the unfettered right at any time to repeal its legislation. Each State is competent to construe and apply its legislation in the cases that arise in its jurisdiction. If it be assumed that the statutes of the two States have been enacted with a view of reciproc-

ity in operation, nothing is shown which can be taken to alter their essential character as mere legislation and to create an obligation which either State is entitled to enforce as against the other in a court of justice." The Court found no controversy in the constitutional sense. "Missouri, in claiming a right to recover taxes from the respondent trustees, or in taking proceedings for collection is not injuring Massachusetts. By the allegations, the property held in Missouri is amply sufficient to answer the claims of both States and recovery by either does not impair the exercise of any right the other may have. It is not shown that there is danger of the depletion of a fund or estate at the expense of the complainant's interest. On the contrary, the validity of each claim is wholly independent of that of the other, and, in the light of our recent decisions, may constitutionally be pressed by each State without conflict in point of fact or law with the decision of the other. The question is thus a different one from that presented in *Texas v. Florida* where the controlling consideration was that by the law of the several States concerned only a single tax could be laid by a single State, that of the domicile. This was sufficient basis for invoking the equity jurisdiction of the Court, where it also appeared that there was danger through successful prosecution of the claims of the several States in independent suits enough of the estate would be absorbed to deprive some State of its lawful tax."

### FEDERAL LEGISLATION

Chapter 3 of the Internal Revenue Code as amended by the Revenue Act of 1939 signed by the President on June 29, amended section 813 (b) to provide that estate, inheritance or succession duties paid to any possession of the United States shall be entitled to the same credit against the Federal estate tax that may be claimed for taxes paid to the states.

### STATE LEGISLATION

Some of the more important enactments by the various states in 1939



## VII. PUBLIC FINANCE AND TAXATION

were as follows: California made certain amendments with respect to charitable and other gifts and extended reciprocal exemption of intangible personal property to residents of states or territories of the United States. A gift tax was also enacted. Colorado generally amended and clarified its gift tax statute. Delaware made various amendments of an administrative nature; provided for reciprocal enforcement of domiciliary death duties; and provided for a temporary commission to study the elimination of possible duplication of taxes based on domicile.

Congress, legislating for the District of Columbia, generally amended and re-enacted the district inheritance and estate tax law. Graduated rates were substituted for the former flat rate.

Idaho placed the administration and collection of the inheritance tax in the hands of the tax commissioner. Illinois provided that when the beneficial interest in any property passes to the state or any of its institutions, municipal corporations, etc. for public purposes, the same shall not be taxable. Iowa transferred the administration of the inheritance tax from the state treasurer to the state tax commission. Massachusetts provided an additional temporary estate tax

covering deaths in the calendar year 1939-1940 and provided for temporary increases in the rates of the inheritance tax. Minnesota transferred the administration of the inheritance and gift tax from the attorney-general to the commissioner of taxation. The inheritance tax statute was also considerably amended. Missouri repealed inheritance tax reciprocity.

New York extended to June 30, 1940 the application of the emergency estate tax rates and made provision for payment of refunds from current taxes. North Carolina made certain changes in inheritance tax rates and clarified its gift tax law with respect to rates. Ohio set up a department of taxation in lieu of the former tax commission. Oklahoma, among other changes, enacted reciprocal enforcement of domiciliary death duties. Oregon provided for reciprocal exemption of certain charitable transfers. Rhode Island re-enacted its inheritance and estate tax law, generally amending it. Tennessee imposed a tax on gifts. Texas repealed reciprocal exemption of intangible personalty in non-resident estates and made a number of other amendments. The office of tax commissioner was abolished. Washington codified its administrative laws dealing with inheritance taxes.

### AUTOMOBILE TAXES

BY BEULAH BAILEY THULL

RESEARCH ASSISTANT, NEW YORK STATE DEPARTMENT OF  
TAXATION AND FINANCE

#### REGISTRATION AND REVENUE

For the first time since the advent of the automobile there has been an annual decrease in the total registration of motor vehicles. In 1937 the grand total as given by the United States Bureau of Public Roads was 29,705,220 and in 1938, 29,485,680, a decrease of 219,540 or 7 per cent. Of the 48 states only 15 had an increase and it was in every instance a very slight increase, the largest being 2.4 per cent in Kentucky. The two large

est decreases in registration were in the District of Columbia, 11.5 per cent, and in Michigan, 6.4 per cent. The decrease in cars registered was reflected in a decrease in revenue. The revenue yield was \$399,613,000 in 1937 and \$340,061,000 in 1938. The decrease in revenue was 14 per cent while the decrease in the number of cars was only 7 per cent. This would mean that lighter cars are supplanting heavier cars.

## AUTOMOBILE TAXES

### REVENUE FROM MOTOR FUEL AND OTHER TAXES

The net revenue from state motor fuel taxes was \$756,930,000 in 1937 and \$771,764,000 in 1938. There were no changes in gasoline tax rates in 1938. The total state tax paid by automobile owners and drivers, excluding personal property taxes and sales taxes, was \$1,111,765,000 for 1938 as compared with \$1,156,543,000 for 1937, a decrease of \$44,778,000 or 3 per cent.

In addition to the state taxes on motor vehicles there is a Federal tax on automobile trucks, automobiles, motorcycles, tires, inner tubes and parts or accessories, and a tax on lubricating oils and gasoline. The total yield from these Federal taxes was \$317,613,000 for the fiscal year ended June 30, 1938. The figures are not yet available for the year ended June 30, 1939.

This year two states—South Dakota and Wisconsin—have pending constitutional amendments as to whether or not all revenue from automobile taxes shall be used for highway purposes. In 1937, 15 per cent of the revenue from the tax on motor fuels was used for non-highway purposes, and in 1938 it was the same. The percentage of motor vehicle revenue used for non-highway purposes also remained stable at 9 per cent. However, the actual amount expended for non-highway purposes was \$32,682,000 in 1938 as against \$38,096,000 in 1937.

### MOTOR TAX BASES

During the 40 years of motor vehicle taxation there has been a constant broadening of the tax base, until today, in addition to the registration fee for private cars, there are in various states an *ad valorem* personal property tax, a special personal property tax, a sales tax and municipal license taxes. Common carriers and contract carriers have still different tax bases.

Today the bases for registration fees for passenger cars include gross weight, net weight, horse power, price, age, a flat rate, or a combination of these various bases. Arkansas, Delaware, New Hampshire, Rhode Island and Virginia use gross weight as the

base for the registration license. Kansas has a flat rate of \$4 plus 25¢ per 100 pounds of gross weight in excess of 2,000 pounds. The 1939 legislatures decreased the Delaware rate from \$1.50 for 5,000 pounds or less to \$1.25 and from \$2 over 5,000 pounds to \$1.50. Alabama, Colorado, Connecticut, Florida, Michigan, Montana, Nebraska, North Dakota, New York, South Carolina, Tennessee, Texas, Vermont, and Wisconsin use net weight as the basis. Iowa uses net weight as one factor and value as a second factor. Mississippi and Indiana use net weight and horsepower. New Mexico and South Dakota use net weight and age. Minnesota and Oklahoma are the only states that use price alone as the base for the registration license.

In the early days horsepower was the most used basis of taxation. Today 11 states use horsepower—Arkansas, Illinois, Indiana, Maine, Maryland, Massachusetts, Mississippi, Missouri, New Jersey, Ohio, and Pennsylvania. As before noted, Arkansas uses horsepower and gross weight, Mississippi and Indiana horsepower and net weight. Maine formerly used both horsepower and net weight but in 1939 changed to horsepower only.

Since the advent of the gasoline tax many states are turning to a flat registration fee disregarding all factors. These states are Arizona, California, Idaho, Kentucky, Nevada, Oregon, Utah, Washington and Wyoming. In 1939, Idaho changed from net weight to a flat rate and Wyoming from horse power to a flat rate.

Twenty-one states levy for state purposes no *ad valorem* or property tax on motor vehicles nor any specific property tax. These states are Connecticut, Delaware, Florida, Idaho, Iowa, Louisiana, Michigan, Minnesota, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Utah, Vermont, Virginia, and Wisconsin. Of these states Connecticut, New Mexico, New York, North Carolina, Ohio, and Virginia permit a municipal personal property tax. (In New York State it is limited to New York City and is really a use tax.)

## VII. PUBLIC FINANCE AND TAXATION

Utah permits one for county purposes. Alabama, Arizona, Arkansas, Georgia, Illinois, Indiana, Kansas, Kentucky, Maryland, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, Rhode Island, South Carolina, South Dakota, Tennessee, and Texas permit the motor vehicle as the basis of assessment for both a state and local property tax. A state personal property tax only may be levied in West Virginia. The right is not shared with the localities.

During the last decade there has been levied in many of the states, in lieu of a property tax on automobiles, an excise tax based on value. These states are Arizona, where it was first levied in 1939; California, Colorado, Maine, Massachusetts, Washington and Wyoming. In Maine, Massachusetts, Washington, and Wyoming the yield from the excise tax goes to the localities. In California and Colorado it is shared between the state and the locality.

### SALES TAX ON PRIVATE MOTORS

There is still another tax on private motor vehicles which is used by many states and that is the sales tax. This tax is payable only once, at the time of original purchase or possession, while the excise tax based on cost is payable annually but at decreasing rates due to age of car. The sales tax is in every instance in addition to the registration fee and in many states in addition to the excise tax. The states with a sales tax and the rates of tax are: Alabama,  $\frac{1}{2}$  of 1 per cent; Arkansas, 2 per cent; California, 3 per cent; Colorado, 2 per cent; Illinois, 3 per cent; Iowa, 2 per cent; Kansas, 2 per cent; Kentucky, 3 per cent; Louisiana, 2 per cent; Maryland, 2 per cent; Michigan, 3 per cent; Mississippi, 1 per cent; Missouri, 2 per

cent; North Carolina, 3 per cent; North Dakota, 2 per cent excise in lieu of regular sales tax; Oklahoma, 2 per cent; South Dakota, 3 per cent; Utah, 2 per cent; Washington, 2 per cent; West Virginia, 2 per cent, and a gross income of  $\frac{1}{2}$  per cent; Wyoming, 2 per cent.

The states which levy a registration fee only on their private passenger cars with no additional personal property tax, sales tax or excise tax, nor do not permit municipalities to levy such taxes are Delaware, Florida, Idaho, Minnesota, New Jersey, Oregon, Pennsylvania, Vermont and Wisconsin.

### GASOLINE TAXES

The gasoline tax rates are more or less stabilized. Only one state, North Dakota, increased the rate. It is now 4¢, formerly 3¢. All emergency gasoline taxes have been continued for another year. This includes the 2¢ emergency in New York, 1¢ in Florida, 1¢ in Minnesota, 1¢ in Massachusetts, 2¢ in Montana, 1¢ in Pennsylvania, and 1¢ in West Virginia. (For table of state gasoline tax rates see p. 247.)

### COLLECTION METHODS

The collection of these various taxes is difficult, and 15 of the states have integrated the collection of their special taxes with the issuing of the registration license. That is, the license will not be issued unless the other taxes on automobiles are paid. These states are Alabama, Arizona, California, Colorado, Connecticut, Kansas, Maine, Massachusetts, Montana, Nebraska, Nevada, New Hampshire, North Dakota, Utah, Washington, and Wyoming. Maine and Vermont will not issue a license unless the poll taxes also are paid.

## PERIODICAL PUBLICATIONS

*American Economic Review*  
Northwestern University, Evanston,  
Ill.  
*Annalist*  
*The New York Times*, Times Sq.,  
New York City.

*Commercial and Financial Chronicle*  
William and Spruce Streets, New  
York City.  
*Journal of Political Economy*  
5750 Ellis Ave., Chicago.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

### *Nation's Business*

Chamber of Commerce of the  
United States, Washington, D.C.

### *Quarterly Journal of Economics*

Harvard University Press, Cam-  
bridge, Mass.

### *Tax Digest*

15 East 26th. Street, New York  
City.

### *Tax Magazine*

350 Fifth Ave., New York City.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following  
organizations)

AMERICAN TAXPAYERS' LEAGUE, Mun-  
sey Bldg., Washington, D.C.

NATIONAL HIGHWAYS ASSN., Bass  
River, Cape Cod, Mass.

NEW ENGLAND STATE TAX OFFICIALS  
ASSOCIATION, Room 236, State House,  
Boston, Mass.

NORTH AMERICAN GASOLINE TAX CON-  
FERENCE, 844-46 Consolidated Bldg.,  
Indianapolis, Ind.

TAX POLICY LEAGUE, 309 E. 34th St.,  
New York City.

TAX RESEARCH INSTITUTE OF AMER-  
ICA INC., 292 Madison Ave., New  
York City.

TAX REVISION COUNCIL, 850 E. 58th  
St., Chicago, Ill.



## DIVISION VIII

### PUBLIC RESOURCES AND UTILITIES

#### FEDERAL SURVEYS AND MAPS

BY W. L. G. JOERG

CHIEF, DIVISION OF MAPS AND CHARTS, THE NATIONAL ARCHIVES

##### SCOPE OF FEDERAL MAPPING

Many Federal agencies undertake surveys and publish maps, since the pattern of physical and man-made features of the earth's surface and the manifold relations of man to the land that maps portray graphically are obviously the concern of the numerous branches of the United States Government whose activities deal with the inventorying, recording, and guiding of the resources, both natural and human, of the United States.

Thus the Geological Survey maps the country geologically and topographically, the General Land Office surveys what there is left of the public domain, the Corps of Engineers of the Army does some topographic work but mainly carries out surveys that relate to river and harbor improvement and flood control, the Mississippi River Commission and the Lake Survey publish surveys respectively of the Mississippi River and the Great Lakes, the Coast and Geodetic Survey establishes the basic geodetic and leveling network and maps the coast of the United States and its possessions, the Hydrographic Office of the Navy maps parts of the coasts of Central America and the Caribbean and publishes charts of foreign waters, the Weather Bureau charts the daily weather map and publishes other maps embodying meteorological data, the Forest Service makes certain surveys of the forest lands and compiles maps of the Na-

tional Forests, the Soil Survey and the Soil Conservation Service make the surveys for, and publish, soil classifications and soil erosion maps, the Agricultural Adjustment Administration and the Tennessee Valley Authority portray land utilization, mainly through air mapping, and the latter agency also publishes topographic sheets on the basis of these aerial surveys, the Office of Indian Affairs occasionally makes surveys of Indian reservations, and the Public Roads Administration publishes both general and detailed maps of the road system of the country. Compiled maps, as contrasted with maps based on field surveys, are published by the Bureau of the Census (population and other statistical maps), the Bureau of Agricultural Economics (agricultural data), the Bureau of Foreign and Domestic Commerce, the National Resources Committee (synthesizing maps of various kinds), the Office of the Geographer of the State Department, the Division of Maps in the Library of Congress, and others.

Coordinating the work of these agencies is the Federal Board of Surveys and Maps, whose functions have been described in these pages (*THE AMERICAN YEAR BOOK*, 1926, p. 865; 1934, p. 222; 1935, pp. 263-264). Another correlating agency is the U.S. Board on Geographical Names (in the Department of the Interior) which establishes standard forms of spelling and definitions of geographi-

## FEDERAL SURVEYS AND MAPS

cal features that serve as norms for the map-making and map-using bureaus.

From this incomplete list it is apparent that the output of all these agencies can not be discussed every year in such brief reviews as these reports of progress. As heretofore, the work of the leading agencies only can be described annually, leaving to longer intervals summarizing accounts of the bureaus whose map-making activities are less extensive.

### GEOLOGICAL SURVEY

At the close of the fiscal year ended June 30, 1939, 45.4 per cent of the total area of the United States had been covered by topographic maps of the Geological Survey, Department of the Interior, as compared with 45 per cent the year before, both figures being calculated on the revised base recently introduced by the Survey (see *THE AMERICAN YEAR BOOK*, 1938, p. 256). This area represents 27,137 square miles (as compared with 13,583 square miles the year before) newly surveyed, resurveyed, or revised topographically, in 45 states and Puerto Rico. In addition, 2,180 square miles were covered by planimetric maps without contours, compiled from aerial photographs in Louisiana, Michigan, and Wisconsin.

Of the maps resulting from the year's topographic surveys about two-thirds will appear on the scale of 1:62,500, about one-sixth in 1:31,680, and about one-twentieth in 1:125,000. During the year 86 new topographic sheets and reprints of 213 sheets were published. Among these may be mentioned the following sheets: Mount Washington, N.H., 1:62,500; Plymouth, Mass., 1:31,680; White Sulphur Springs, W.Va., 1:62,500; Mount Elbert in the Colorado Rockies, 1:62,500; Bryce Canyon National Park, 1:31,680; and Yosemite Valley, 1:24,000, contoured by F. E. Matthes, a revised reprint of the 1907 first edition.

An important, although brief, report that appeared during the year was the program for speeding up topographic mapping that was jointly endorsed by the Secretaries of War,

Interior, and Commerce (76th Congress 2nd Sess., *Senate Doc. No. 54*).

### GENERAL LAND OFFICE

The branch of the General Land Office (of the Department of the Interior) that conducts the surveys of the public lands is called the Cadastral Engineer Service. During the fiscal year 1938-39 this Service surveyed and resurveyed a total of 36,249 linear miles, embracing 5,992,000 acres (as compared with 34,480 linear miles, embracing 5,985,310 acres in 1937-38 (see *THE AMERICAN YEAR BOOK*, 1938, p. 272). There were accepted and placed on file plats representing 1,444,180 acres of original surveys of public lands, and, in addition, 1,914,355 acres of lands resurveyed, comprising an aggregate area of 3,358,000 acres.

Under the supervision of this Service there was also published a new edition of the standard General Land Office map of the United States. This is the largest-scale map of the country as a unit published by any Government agency, the scale being 37 miles to the inch (1:2,344,320; the next largest being the 1:2,500,000 map published by the U.S. Geological Survey). One of its distinctive features is that it shows the entire network of six-mile-square townships of the public land surveys. Certain editions show, by means of overprinted colored areas, the territorial growth of the country since 1783. A popular article on this map, with a reduced facsimile reproduction, appeared in *Life* for June 5, 1939.

The General Land Office also regularly publishes a set of maps on the scale of 12½ miles to the inch (1:792,000) of the public land states, new editions of a given map appearing every so often. During 1938-39 a new edition of the map of Idaho was published.

Mention may be made here, even though it is not recent, of a little-known but useful map published by the General Land Office entitled "United States, Showing Principal Meridians, Base Lines, and Areas Governed Thereby." As its title indicates it shows the location of all the

## VIII. PUBLIC RESOURCES AND UTILITIES

base lines and principal meridians in the country and the different areas in which these lines are the reference coordinates in the surveying and subdivision of public lands.

### COAST AND GEODETIC SURVEY

During the fiscal year 1938-39, the U.S. Coast and Geodetic Survey, Department of Commerce, surveyed 2,265 miles of coast line of the United States, Alaska, and the Philippine Islands, embracing 1,406 square miles of shore topography, and ran 89,461 miles of sounding lines covering an area of 48,742 square miles with no less than 1,315,015 individual soundings. Seven entirely new coast charts were published; the permanent set of the Survey's charts, constantly kept up to date by reissue, numbered 794, of which 163 were compiled and printed at Manila.

An innovation was introduced with the issue of Chart No. 5101A of the waters off the California coast near the Santa Barbara Islands. Instead of the usual method of spot soundings, submarine contours (with a vertical interval of 50 fathoms) are used to represent the submarine topography. The purpose is to serve the needs of the mariner, who now, through the development of echo sounding, is in a position to determine his exact location by "feeling" his way along the bottom, as it were. But this type of representation also serves the ends of science, since it affords an image of submarine relief of the same vividness as the normal contour map does of land topography.

The sectional aeronautical map of the United States on the scale of 1:500,000, in 87 sheets, to which extended reference has been made in these pages (*THE AMERICAN YEAR BOOK*, 1929, p. 663; 1934, pp. 225 and 754-755; 1935, p. 265; 1936, p. 254; 1938, p. 258) has been expanded to include Alaska. Of the summarizing "regional aeronautical chart" of the United States in 1:1,000,000 (*THE AMERICAN YEAR BOOK*, 1935, p. 265) six sheets of a total of 17 have appeared. Within the last few years the Coast and Geodetic Survey has begun to make available a series of maps called air

planimetric maps. These are detailed maps, without contours, on scales of 1:5,000, 1:10,000, and 1:20,000 covering practically the whole of the Atlantic and parts of the Gulf and Pacific coasts of the United States, on which the outlines of the geographical features have been traced directly from air photographs. Being on larger scales than the customary coast charts also published by the Survey and being copied directly from the air photographs, they contain a wealth of detail of great value.

### BUREAU OF PUBLIC ROADS

In addition to the transportation map of the United States on the scale of 1:250,000 appearing progressively in sheets, to which frequent reference has here been made (*THE AMERICAN YEAR BOOK*, 1934, p. 224; 1935, p. 265; 1936, p. 254; 1938, p. 258) the Bureau of Public Roads of the Department of Agriculture (became the Public Roads Administration of the new Federal Works Agency on July 1, 1939) has since 1936, with the cooperation of the respective State Highway Departments, been producing a series of state highway maps, generally on the scale of eight miles to the inch, and a series of county highway maps, generally on the scale of one mile to the inch, of which the latter series is particularly noteworthy because of the amount of otherwise unavailable "cultural" information that the large scale permits it to show.

In conformity with its primary purpose this series shows roads classified in great detail as to function and surfacing, but the outstanding feature of value to the human geographer, sociologist, and economist is that, in the rural areas, it shows, in a wealth of intimate detail impossible of achievement on the ordinary topographic sheet, all aspects of man's earth-tied activities—individual dwellings, public buildings, public utilities, recreational areas, administrative centers, etc., each class divided into numerous types in order to bring out their characteristic functions. Little wonder that the Bureau of Census has

found this series invaluable in preparing its maps of census enumeration districts for the decennial census of 1940. In spite of the magnitude of the task, 1,924 counties out of the total of about 3,000 in the country have already been covered by this type of map.

The utility of this county highway series is further heightened by the creation of three supplementary editions, one showing rural delivery or star mail routes, the second showing routes over which school buses operate, and the third showing annual average 24-hour traffic flow. These editions are ingeniously created by superposing on the highway map transparent band symbols over the relevant roads. Although the complex information that these maps carry might be considered to call for color printing, both the highway series and the supplementary editions are printed in black and white only and are clear and legible nevertheless.

#### NATIONAL RESOURCES COMMITTEE

An outstanding example of compiled maps published by a government agency are the maps illustrating the monumental series of reports published by the National Resources Committee (since July 1, 1939, called the National Resources Planning Board) since its establishment in 1933 (as the National Planning Board, 1933-34, and the National Resources Board, 1934-35). These maps, reflecting the texts that they accompany, encompass the whole range of concepts of modern geography. Indeed, taken together, they form an unparalleled series of syntheses dealing with the physical and the human resources of the United States, and any exposition of the economic geography of our country must in the future necessarily hark back to these reports.

Although almost all of the reports (for list see back pages of pamphlets published by the Committee that abridge the major reports), which total some 60 numbers of varying length in quarto size, contain maps,

the following reports are the leading ones of geographic, and hence of cartographic, import: *Report on National Planning and Public Works in Relation to Natural Resources* (analyzed by the writer in *Geogr. Rev.*, April 1935); *Supplementary Reports of the Land Planning Committee* (in 11 parts); *Regional Planning* (in 8 parts, each dealing with a different region); *Problems of a Changing Population*; *Our Cities*; *Report of the Mississippi Valley Committee*; *Future of the Great Plains*; and *Regional Factors in National Planning*.

Many of the maps present basic data in graphic form for the first time. Among these may be cited a new average annual precipitation map showing isohyets for 5-inch multiples of rainfall amount, or the detailed map, on the large scale of one mile to the inch, of the agricultural crops and related native vegetation in the Rio Grande basin from its head in Colorado to below El Paso, which discloses for the first time in impressive detail the irrigation agriculture of this narrow band of fertile land that once constituted the heart and core of the frontier region of New Spain; or, again, the two original maps in 1:5,000,000 of the carrying capacity of the western range lands (differentiated by acres per "cow month") and the seasonal use of the range lands (areas differentiated as summer range, winter range, yearlong range, intermittent desert range, and unused range).

In the field of regionalism there is a map showing lines representing various physical elements to serve as criteria for the delineation of the Great Plains, and, similarly, in the field of human geography, there are maps of urban centers, such as St. Louis, showing the limits of various public services as guides to arrive at the natural-economic boundaries, rather than the administrative boundaries, of a metropolitan area. Numerous other maps deal with manifold phases of human economy—internal migration within the United States, growth and character of cities, traffic flow (e.g. automobile, motor truck, railroad passenger, and railroad freight in New



## VIII. PUBLIC RESOURCES AND UTILITIES

England), value of farm lands and buildings in 1930 (original map in 1:5,000,000 based on data by minor civil divisions, *i.e.*, administrative units below the county in rank, such as townships, etc.)

### STATE GEOLOGICAL SURVEYS

BY PAUL H. PRICE

SECRETARY, ASSOCIATION OF AMERICAN STATE GEOLOGISTS

#### GENERAL

Civilization as it is known today is dependent to an important degree upon the use of mineral resources. Now that it is a chemical age, a nation's greatness depends to an even greater degree upon the quantities and qualities of its mineral resources. The United States is blessed with vast reserves of raw materials, and the technical skill to make the best possible use of them.

As an aid to mineral development, 42 states had active geological surveys during 1939-40. Available appropriations to the state geological surveys during the fiscal year were approximately \$1,496,831. This amount was increased about \$2,249,577 by the U. S. Geological Survey, U. S. Coast and Geodetic Survey, Works Progress Administration, U. S. Bureau of Mines, U. S. Department of Agriculture, and by state, county, and local organizations and individuals cooperating with state surveys, making a total of \$3,946,408 devoted to the investigation of state mineral resources.

Approximately 141 geologists and 90 other technical workers were employed full time, 131 geologists part time, and 183 non-technical workers full and part time on 518 state survey projects, including mineral resources, geologic, topographic, soil surveys, stream-gaging, and other projects. Some 380 technical reports and maps were being prepared for publication or published.

#### BASIC GEOLOGY

**Arkansas.**—Study of Stratigraphy and Paleontology of the Pitkin Formation; study of Comanche and Older Formations of Southern Arkansas.

**Connecticut.**—A study of the bedrock geology of the western highlands; study of the pegmatite deposits in the eastern highlands. (Both suspended.)

**Georgia.**—Geologic map of Georgia and report on the geology.

**Illinois.**—In progress: Pennsylvanian stratigraphy; Pennsylvanian paleontology; Micropaleontology—Pre-Mississippian, Mississippian, and Pennsylvanian; paleobotany of the Pennsylvanian system of the formations of the Paleozoic system; Pleistocene system; geologic structures of the Illinois basin; areal investigations and geologic mapping; revision of geologic map of Illinois; petrology of Illinois clays. Completed: Report on geology and mineral resources of the Marseilles; Ottawa and Streator quadrangles; report on Pennsylvanian fusulinidae of Illinois; report on spores from Herrin (No. 6) coal bed in Illinois; report on coal balls as an index to the constitution of coal; report on petrology of Pennsylvanian underclays of Illinois.

**Iowa.**—In progress: Cambrian Strata; Geomorphology of "Driftless Area"; Pleistocene loesses; Pennsylvanian Stratigraphy; Sedimentary Studies in the Younger Pennsylvanian Strata. Completed: Pleistocene gravels.

**Kansas.**—Geology of Riley and Geary counties. In progress: geology and physiography of the High Plains; studies of the paleontology and stratigraphy of Kansas; the Bronson Group.

**Kentucky.**—Devonian stratigraphy of Western Kentucky.

**Maryland.**—Areal geology; Howard County; Charles County.

**Michigan.**—Magnetic and geologic surveys on copper bearing areas;

magnetic and geologic surveys of iron-bearing areas in Dickinson County; stratigraphical studies from well samples and logs; report on Coldwater shale.

**Minnesota.**—Completed: Anorthosites of Minnesota. In progress: Geology of the Duluth Metropolitan Area.

**Mississippi.**—Survey of Tallahatchie, Lauderdale, Forrest, Yazoo, Marion, Adams, Lafayette, Warren, George, Jackson, Tippah, and Union counties.

**Missouri.**—Stratigraphic Studies S. E. Missouri; stratigraphic studies S. W. Missouri; stratigraphic studies statewide; geology of Lowland Area S. E. Missouri.

**Montana.**—Physiography of Gravelly Range; study of Paleozoic Limestones of Montana. Completed: Correlation of Cambrian Strata.

**Nebraska.**—Tertiary formations; reserve survey of Lower Platte Valley; study of Pennsylvanian and Permian formations; logging of deep wells; study of late Paleozoic bryozoa; ground water survey, Republican Valley area.

**New York.**—Geology of quadrangles: Coxsackie, Catskill, Kaaterskill, Wellsville, Randolph, Cattaraugus, Morrisville, Indian Lake, Russell, Oriskany, Newburg. Report: geology of the Clyde and Sodus Bay quadrangles; mapping and description of geology of U.S.G.S. sheets for Schunemuck, Russell, Oriskany, Cattaraugus, Morrisville, Indian Lake, Randolph, Kaaterskill; Geology of the Coxsackie, Catskill, Lake George Region, and Wellsville quadrangles.

**North Dakota.**—Geologic Survey of Heart Butte Quadrangle; summary of the Geology of North Dakota, especially the eastern half—revised geologic map.

**Ohio.**—A continuation of local studies in Pennsylvanian rocks to determine stratigraphy and structures, mostly in Guernsey and Tuscarawas counties; continuation of stratigraphic studies of western Ohio limestones and dolomites.

**Oklahoma.**—Areal geology and stratigraphy of Washington County.

In progress: Areal geology and stratigraphy of Tulsa County.

**Oregon.**—Reconnaissance survey of Post quadrangle with map. In progress: Geological Survey of Multnomah County; geology of northern part of Wallowa Mountain Range; geology of the Salem Hills and Santiam River Area. Completed: Geology and Mineral Resources of Lane County.

**Pennsylvania.**—Martinsburg Stratigraphy; surface history of Pennsylvania; the rocks of Pennsylvania; Curwensville Quadrangle; Tyrone Quadrangle; Fayette County; York County; The Devonian of Pennsylvania.

**South Dakota.**—A Geology of South Dakota.

**Texas.**—Geology and minerals of the Llano region; Mississippian of the Llano region; collection of vertebrate fossils; contributions to Geology, 1939 (contains a number of short papers by various authors). Petroleum Resources of Texas.

**Virginia.**—In progress: geology and mineral resources of: Amherst quadrangle; Buena Vista quadrangle; Burkes Garden quadrangle; Shenandoah National Park; of State; of Hot Springs district; of Frederick and Clarke counties; Richmond district; physical features; rocks and minerals; geology of State Parks; outline of the geology and mineral resources of Augusta County; guidebook of Lee Highway. Completed: Geology of Appalachian Valley in Virginia; geology and mineral resources of Giles County; outline of geology and mineral resources of Scott County; Abingdon, Eagle Rock, Natural Bridge, and Stony Man quadrangles. Contributions to Virginia Geology—II (*Bull.* 51); Appalachian Valley Monograph (*Bull.* 52); Warrenton quadrangle (*Bull.* 54); Geology of the Draper Mountain area, Virginia (*Bull.* 55).

**Washington.**—Origin of Certain Gneisses and Schists of the Kettle Range, Ferry County; preparation of tectonic map of Washington; preparation of thin sections of samples of all formations in Washington; monograph on paleobotany of Washington

## VIII. PUBLIC RESOURCES AND UTILITIES

Tertiary; index to stratigraphy of Washington; stratigraphy and structure of flooded terrane above Grand Coulee dam; stratigraphic studies on the Olympic Coast.

**West Virginia.**—Stratigraphic studies by means of well cuttings; stratigraphic studies of the outcropping Pre-Mississippian formations of West Virginia; Wetzel County Report; survey of Methods for Secondary Recovery of Oil in West Virginia. Completed: detailed geologic report on Greenbrier County.

**Wyoming.**—Pennsylvania stratigraphy of the Laramie Range of southeastern Wyoming; stratigraphy of Mississippian rocks of southeastern Wyoming; geology of a portion of east side of Laramie Range in Albany, Laramie and Platte counties; structure of southwest margin of Laramie Basin; structural studies in the Elk Mountain Area, Carbon County; stratigraphy of the Dinwoody Formation; stratigraphy of the Phosphoria formation; paleontological studies of the Phosphoria formation.

### OIL AND GAS

**Arkansas.**—Study of Comanche and older formations of southern Arkansas; study of stratigraphy and paleontology of the Pitkin formation.

**California.**—Summary of operations, California oil fields, issued quarterly by State Oil and Gas Supervisor.

**Georgia.**—Subsurface structure of the Coastal Plain of Georgia.

**Illinois.**—In progress: oil and gas stratigraphy and structure; physical and chemical tests of oil and cores; data on repressuring plant methods; studies of water flooding in Illinois oil fields; scouting of drilling wells; work on development maps of active areas in Illinois oil fields; geology and oil and gas possibilities of extreme southern Illinois. Completed: history of oil and gas development in Illinois in 1938; report on the market for Illinois oil in 1937 and 1938; monthly reports on drilling activity; revision of oil and gas map of Illinois; report on oil activity in Illinois before the Interstate Oil Compact Commission.

**Indiana.**—Revision of oil and gas

field maps and county dry hole maps; compilation of well records by counties; examination of well cuttings and samples; prevention of stream pollution by oil field wastes; compilation of structural data in oil and gas producing areas. Completed: preparation of annual reports on oil and gas drilling and production.

**Iowa.**—Oil and Gas Possibilities of Iowa, part of Forest City Basin.

**Kansas.**—Oil and gas seeps in Smith County. Completed: western Kansas oil and gas developments during 1938; secondary recovery of petroleum, part I, Bibliography; geology and oil and gas resources of Montgomery County; engineering study of the Hugoton gas field; geology and oil and gas resources of Linn County; oil and gas developments during 1939; Post-Cherokee coals of Kansas; new uses for volcanic ash; geology and oil and gas resources of Forest City Basin; geology and oil and gas resources of Neosho County; studies of insoluble residues; collection of data on oil and gas wells in Kansas; subsurface studies in Kansas; oil and gas development during 1939.

**Kentucky.**—Studies on porosity, permeability, and oil content of Oil Sands.

**Louisiana.**—Report on oil and gas and mineral industries of Louisiana.

**Michigan.**—Structural maps of four oil fields in southwestern Michigan; report on Coldwater shale.

**Mississippi.**—Oil in Yazoo County—first commercial well in Mississippi.

**Missouri.**—Studying subsurface North Missouri through examination of drill cuttings from wells being drilled at present; analysis—mineralized waters from oil and gas tests.

**Nebraska.**—Oil in commercial quantity discovered this year, near Falls City. This necessitates the assignment of a geologist for well logging and inspectional work relating to drilling.

**New Mexico.**—Compiling well logs in state; preparation of oil and gas maps; carbon dioxide in New Mexico.

**New York.**—Recent Oil and Natural Gas Developments in New York



State (1939); Recent Oil and Natural Gas Developments in New York State (1935-1938).

**Ohio.**—Collection of well cuttings and careful examination in office of these cuttings; collection of well logs; scouting work in field: in Cuyahoga County and in Chatham-Lodi field of Medina County; mapping of structures; oil and gas papers.

**Pennsylvania.**—Tidioute Quadrangle; Hilliards Quadrangle; Titusville Quadrangle; Stratigraphy (revised); deep oil and gas sands; oil mining possibilities in Pennsylvania; geology of oil and gas fields of Hilliards Quadrangle.

**South Dakota.**—Upper Missouri valley structural survey; Magnetometer survey between James and Missouri Valleys in South Central South Dakota.

**Texas.**—Petroleum resources of Texas.

**Washington.**—Laboratory examination of drill cuttings; preparation of permanent file of drill cuttings; preparation of file covering progress of drilling tests.

**West Virginia.**—Wetzel County report; survey of the Methods for Secondary recovery of oil in West Virginia; petrography and correlation of deep well sections in West Virginia (completed).

**Wyoming.**—Stratigraphical and areal studies in the LaBarge District, Lincoln County.

#### COAL, COKE, AND PEAT

**Alabama.**—Warrior coal field.

**Illinois.**—Study of constitution of Illinois coals, including project on exploration by oxidation; study of constitution of commercial coal fines; general coal report; investigation of physical properties of coal under three variables (temperature, pressure and time); composition and fusibility of ash from Illinois coals; proximate and ultimate analysis of coal; the nature of moisture in coal; review of the literature on composition and constitution of coal; demonstration of smokeless briquets from Illinois coals. Completed; report on potential markets for Illinois coal on the upper Mississippi Waterway; struc-

ture map of Herrin (no. 6) coal bed in a group of southeastern Illinois counties; report on nomenclature of the megascopic description of Illinois coals; report on effect of preparation on ash fusibility of selected Illinois coals; study of equilibration method of determining classification of coal by rank.

**Iowa.**—Quality of Iowa coal; stratigraphy and structure of coal-bearing beds.

**Kansas.**—Post-Cherokee coals of Kansas.

**Kentucky.**—Coals of the Quicksand Area, Breathitt County.

**Michigan.**—Coal in Michigan.

**Oklahoma.**—Testing eastern Oklahoma coal for coke.

**Oregon.**—State Coal Survey.

**Washington.**—Catalog of coal mine locations and progress of operation.

**West Virginia.**—Characteristics of Mineable Coals in West Virginia.

#### METALLIC MINERALS

**Alabama.**—Brown Ore Project, Russellville; Burchard's Red Ore Project; Bauxite; Manganese.

**Arkansas.**—Study of zinc reserves in north Arkansas; study of manganese reserves in north Arkansas (carried out in connection with State WPA).

**Georgia.**—Gold Deposits of Georgia; Chromite Deposits in Georgia.

**Maine.**—Re-examination of old (inactive) mines and prospects for purpose of collecting additional material and extending notes; examination of new prospects, mostly at request of prospectors and land owners.

**Missouri.**—Barytes deposits; pyrite and marcasite deposits; study sink type deposits Central Ozarks.

**Montana.**—Geology and ore deposits of Jardine District; Platiniferous gold-copper deposits of Revais Creek District; geology and ore deposits of Highland District; geology and ore deposits of Rochester District.

**New Mexico.**—The Placer Gold Deposits of New Mexico; geology and ore deposits of the Little Natchet Mountains (completed).

**Oklahoma.**—Reconnaissance investigation of iron and manganese de-



## VIII. PUBLIC RESOURCES AND UTILITIES

posits of Arbuckle Mountain (completed).

**Virginia.**—Blue Ridge hematite.

**Washington.**—Compilation of card files for mines, mining companies, and mineral occurrences; geologic examination of all mining operations; field service aid to prospectors; chromite resources of the state; mineralization of the Chelan Mining District.

**Wyoming.**—The Titaniferous Magnetites of the Laramie Range, Albany County.

### NONMETALLIC MINERALS

**Alabama.**—Barite; limestone and dolomite.

**Arkansas.**—Sponsoring WPA project drilling for limestone in central Arkansas; sponsoring WPA project drilling for gypsum in southwest Arkansas.

**Georgia.**—Possibilities for manufacture of rock wool in Georgia (completed). In progress: Agricultural limestone; the flagstone industry of Georgia.

**Kansas.**—The Dakota clays of north-central Kansas; chalk resources of Kansas. Completed: new uses for volcanic ash; plant treatment of non-metallic mineral products.

**Michigan.**—Preparation of report on mineral resources of the state.

**Minnesota.**—Anorthosite utilization; Cook County; Duluth area; Cretaceous of Minnesota; structure of Vermillion; stratigraphy; geomorphology. All experiments in progress.

**Mississippi.**—Report on Marion, Adams, Lafayette, Warren, George, Jackson, Tippah, Union, Tallahatchie, Lauderdale, Forrest, and Yazoo counties.

**Missouri.**—Field studies and burning tests—clays of Southeast Missouri; preparation of Feldspar from Granite.

**Montana.**—Study of Montana clays; refractory use of Montana chromite.

**Nebraska.**—Sand and gravel production, value \$2,000,000 per year; stone production, value \$500,000 per year; clay and shale production for use in brick and tile manufacture.

**New Mexico.**—The clays and shales of New Mexico.

**North Dakota.**—Sodium sulphate deposits.

**Ohio.**—The investigation of western Ohio limestones and dolomites, 250 samples having been collected and studied. Also collected and analyzing clay samples from southern Ohio.

**Oregon.**—Preliminary study of utilization of saline deposits (completed).

**South Dakota.**—Appraisal of bentonite deposits in vicinity of Black Hills.

**Virginia.**—Limestones in Virginia; slate deposits; talc and soapstone deposits. Completed: commercial granites.

**Washington.**—Compilation of card files for mines, mining companies, and mineral occurrences; magnesite and dolomite resources of the state.

**West Virginia.**—Clays of West Virginia. A state-wide comprehensive survey on clays and shales, including physical and chemical tests.

**Wyoming.**—Investigations of the Phosphate Resources of the Wyoming Range, Lincoln County.

### GENERAL ECONOMIC

**Alabama.**—Mineral statistics; archaeological investigations.

**Arizona.**—Geology of ore deposits of Superior District; molybdenum, tungsten, and vanadium in Arizona; a bibliography of Arizona Mining and Geology.

**Arkansas.**—Sponsoring statewide mineral survey by WPA personnel; sponsoring WPA project for collecting, mounting and cataloging maps for a permanent map file to be open for public use; sponsoring WPA project for miscellaneous statistical compilation (completed). Twenty county reports on separate counties, prepared as a result of field work of WPA State Mineral Survey project.

**Georgia.**—Possibilities for manufacture of rock wool in Georgia, *Information Circular No. 10*, completed.

**Idaho.**—Continuation of gold-bearing placer ground studies through central Idaho; geology and ore deposits of Rocky Bar district, Elmore County; geology and ore deposits of Volcano district, Elmore County; geology and tungsten deposits on Pat-

terson Creek, Lemhi County; geology and quick-silver deposits near Weiser, Washington County; geology and ore deposits of Seven Devils district. Completed: geology and ore deposits of Florence Mining District, Idaho County; geology and ore deposits near Murray; Dixie placer district, with notes on the lode mines; geology and ore deposits of the Atlanta district, Elmore County; Silver Belt of the Coeur d'Alene district; geology and ore deposits of Kootenai County; geology and ore deposits of Boise Basin; the placers of Secesh Basin. Metallurgical study of Idaho placer sand; abridged bibliography of mineral industry of Idaho; clay and beryllium studies of Latah County.

**Illinois.**—Report on a unique clay from the Goose Lake area; report on the fine-grained molding sand resources of northern Illinois, a preliminary report on the properties of clay; annual economic survey and statistical review of the Illinois mineral industry in 1938; mineral resources of the Illinois Valley; geographic atlas of Illinois. Completed: annual statistical summaries of Illinois mineral industry in 1937; analysis of the domestic fuel market and report on potential markets for Illinois coal on the Upper Mississippi Waterway. Current study of well cuttings; cooperation with State Planning Commission, Illinois Commerce Commission, and State Division of Highways.

**Iowa.**—Rock Wool Raw Materials.

**Kansas.**—Resource—Full Kansas; a photographic study of the mineral industry of Kansas (completed).

**Michigan.**—Lake level control studies; centennial history of the Geological Survey of Michigan; rocks and minerals of Michigan.

**Mississippi.**—Geology of 12 counties.

**Missouri.**—Magnetic map North Missouri.

**Montana.**—Beneficiation of Montana chromite ores; flotation of Montana copper-zinc-lead ores; a state-wide mineral resources survey; mineral dressing and metallurgical studies.

**New York.**—The mining and quarry industries of New York State for 1934-36.

**Oregon.**—Dredging of farm land in Oregon (completed).

**Pennsylvania.**—Geology and mineral resources of: Smicksburg Quadrangle; Southern Clearfield County, Lehigh County; Brookville Quadrangle. Completed: geology and mineral resources of Fayette County, York County. Geologic guides to: Philadelphia region; State College region; Bradford region; Scranton region.

**Texas.**—Geology of Houston County.

**Virginia.**—Geology of Great Gosan Lead; mineral industries in Virginia; natural wonders of Virginia; index of formations.

**Washington.**—Mineral identification service.

**West Virginia.**—Petrography and correlation of deep well sections; limestones of West Virginia (completed). In progress: comprehensive state-wide survey on clays and shales, including physical and chemical tests.

**Wyoming.**—Completed: The geology of an area between LaBonte and LaPrete creeks, Converse County; Geology of the Difficulty—Little Shirley Basin, Carbon County; The Stratigraphy of a portion of the east side of the Laramie Range, Laramie County. In progress: Geology of the Freezout Mountain and Bald Mountain Area, Carbon County. Asbestos and chromite deposits of Wyoming.

#### TOPOGRAPHIC AND AERIAL MAPPING

**Arkansas.**—Sponsoring WPA project for triangulation and leveling in central Arkansas.

**Illinois.**—Sketching on: Freeport, Mulberry Grove, Ina, Cissna Park, Fithian. Leveling in: Peoria, Xenia, Carmi, McLeansboro, Olney, Edgewood. Traverse in: McLeansboro, Olney, Xenia, Cisne. Completed: Sketching on: Milford; Sailor Springs; Newton; Cisne; Enfield. Traverse in: Enfield; Carmi; Wayne City; Fairfield; Golden Gate.

**Kansas.**—Compilation of elevation data; topographic mapping of six 7½' quadrangles in Wichita metropolitan district. Completed: the Altoona, Fredonia 15' and Severy quadrangles.

## VIII. PUBLIC RESOURCES AND UTILITIES

gles; vertical control of 24 15' quadrangles.

**Missouri.**—2,000 sq. mi. of 1/24 and 1/48 topographic quadrangles.

**Nebraska.**—Aerial mapping making good progress under SCS and agricultural conservation.

**North Dakota.**—Aylmer and selz quadrangles.

**Pennsylvania.**—Orbisonia; Sayre quadrangles.

**Virginia.**—In progress: Berryville, Buena Vista, Burkes Garden, Capon Bridge, Clarksville, Endicott, Front Royal, Gerrardstown, Glen Allen, Hightown, Middletown, Moyock (PWA), Orkney Springs, Pulaski, Rural Retreat, Rustburg, Winchester. Completed: Charlottesville 15-minute, Mount of Wilson, Mt. Rogers, Richmond 7½-minute, Vesuvius (PWA).

**Washington.**—Mapping underway on three 15-minute and four 30-minute quadrangles.

**West Virginia.**—Several quadrangles under revision. State has 15-minute quadrangle maps covering entire state.

**Wisconsin.**—Aerial mapping in cooperation with U.S.G.S.

### GROUND-WATER RESOURCES

**Arkansas.**—Study of ground and surface waters of Arkansas in connection with WPA state mineral survey.

**Georgia.**—Ground Water in Georgia: study of the theoretical aspects of ground water in the crystalline area of Georgia.

**Illinois.**—Electrical resistivity survey of buried sand and gravel deposits in search for ground water supplies; cooperation with State Water Survey Division, and State Well Drillers' Association.

**Iowa.**—Quality of Iowa ground waters; production and water level studies; sub-surface geology; forecasting and service on drilling wells.

**Kansas.**—Completed: geology and hydrology of equus beds; ground water resources of Ford County; ground water resources of Morton County; ground water resources of Stanton County. In progress: shallow water basin; Meade artesian basin; Hamilton, Kearney, Finney and Gray counties.

**Maine.**—Investigation of household water supplies, at request of owners.

**Michigan.**—In progress, cooperative with CCC.

**Minnesota.**—Water resources of south half of Minnesota; water resources of northeast quarter of Minnesota.

**Missouri.**—Statewide studies of water well samples; 600 wells, 30,000 samples studied.

**Montana.**—General study.

**Nebraska.**—Completing reports on surveys made last year; progressing with survey of Republican Valley area; continue reading of ground water level at established stations; making close studies of water supplies at three cities of state.

**North Dakota.**—Municipal Surveys at Wilton and Rolla. In progress: study of proposed well irrigation areas; observation well program; work with subcommittee of Tri-State Water Committee on Ground Water Resources of Upper Mississippi Drainage Basin "A".

**Ohio.**—A continuous effort is made to obtain data on water wells in the state and general conditions governing water resources. Serve on committees considering major water and drainage problems in state.

**Oklahoma.**—Beaver County; Cimarron County (completed).

**Oregon.**—Ground water problem at Pendleton (completed).

**Pennsylvania.**—North-central Pennsylvania groundwaters. In progress: well gaging.

**South Dakota.**—Continuation of measurement of ground water levels.

**Virginia.**—Coastal Plain investigations.

**Washington.**—Collection and study of well logs and analyses.

**Wyoming.**—Underground water resources of Chugwater Creek, Laramie River, and North Laramie River Valleys; Underground water resources of Horsecreek and Bear Creek Valleys, southeastern Wyoming.

### STREAM GAGING

**Alabama.**—Surface water investigations.

**Arkansas.**—Cooperating with U.S. G.S. in stream gaging.

## RECLAMATION AND IRRIGATION

**Georgia.**—Cooperative investigations with U.S.G.S.; 65 gaging stations in operation; six new stations planned this year.

**Iowa.**—General program of stream and lake gaging; 51 stream gaging and 10 lake gaging stations (cooperative).

**Maryland.**—State well covered with stations; work in cooperation with Federal and state surveys, and private contributions or voluntary services.

**Minnesota.**—Carried on by state agency separate from Geological Survey.

**Missouri.**—95 gaging stations maintained. Statewide survey in progress.

**Nebraska.**—Under state engineer.

**North Dakota.**—Under direction of

E. J. Thomas, state engineer, Bismarck.

**West Virginia.**—State cooperates with U.S.G.S., Water Resources Branch.

### SOIL SURVEYS

**Illinois.**—Informal cooperative work on geology of Illinois soils with State Soil Survey.

**Michigan.**—Carried on under land economic branch of Lands Division.

**Minnesota.**—Carried on by Division of Soils of College of Agriculture, University of Minnesota.

**Nebraska.**—One county finished and two counties three quarters completed.

**West Virginia.**—Greenbrier County soils report, field work completed, manuscript in press.

## RECLAMATION AND IRRIGATION

By JOHN C. PAGE

COMMISSIONER, U. S. BUREAU OF RECLAMATION

### BUREAU OF RECLAMATION

The Bureau of Reclamation of the Department of the Interior was created by an Act of Congress, June 17, 1902, for the purpose of survey, examination, construction, and operation of works for the reclamation by irrigation of arid and semiarid lands in the western states. It is engaged in the construction, operation, or supervision of the operation of 61 irrigation projects or divisions of projects in 15 arid and semiarid states of the Far West, comprising a total irrigated area of more than 3,000,000 acres. The funds for this work have come from repayments by the water users, from oil leasing and other mineral operations, from the sale of public lands, and by allotments and direct appropriations by the Congress. The money expended is returned to the United States Treasury for deposit in the Reclamation revolving fund by payments of settlers and from sales of power and water.

### CURRENT CONSTRUCTION

The construction program of the Bureau of Reclamation during the

1939 fiscal year was the largest in its history. Work was in progress on 30 projects in 12 states. During the year one major dam was begun, bringing to 10 the number of storage dams and also one diversion dam now under construction. The Bureau constructed 356.2 miles of canals, 138.8 miles of drains, 32 tunnels with a total length of 31,783 feet, 753.6 miles of roads, 12.8 miles of railroad, 357.8 miles of transmission lines, 71.7 miles of pipe lines, 11,307 canal structures, 290 bridges, 992 culverts, and 96 flumes. There were placed in dams 3,622,208 cubic yards of concrete, 5,257,400 cubic yards of earth, and 1,484,976 cubic yards of rock; and 40,260,162 cubic yards of earth and rock were excavated. The Bureau used 3,842,175 barrels of cement.

### GRAND COULEE DAM

An outstanding project under construction is the Grand Coulee Dam on the Columbia River in Washington which, upon completion, will be the most massive masonry structure in the world, and with a maximum height of 553 feet, it will be the third



## VIII. PUBLIC RESOURCES AND UTILITIES

highest concrete dam. The second major contract for completion of the dam, left power house, and foundation for the pumping plant, awarded late in the previous fiscal year, was in progress and was about 38 per cent completed at the end of the fiscal year. Ultimately the project will irrigate 1,200,000 acres of land.

### CENTRAL VALLEY PROJECT

Another major undertaking of the Bureau in progress is the Central Valley project in California, designed to alleviate critical water shortage and problems in important agricultural areas through the conservation of waste flood waters of the Sacramento and San Joaquin rivers. The estimated cost of the project is \$170,000,000. Construction features include Shasta Dam, reservoir, and power plant, 200 miles of transmission lines, the delta cross-cut canal to carry Sacramento River water to the San Joaquin River, the Contra Costa Canal, the San Joaquin pumping system, Friant Dam and reservoir, the Madera and the Friant Kern canals. In September 1938 construction work was begun on Shasta Dam, located about nine miles north of Redding, Calif., and was about 25 per cent complete at the end of the fiscal year. It will be 560 feet in height, 3,500 feet in length along the crest, and will contain a volume of 5,610,000 cubic yards of concrete, the second highest and most massive concrete structure in the world. Work is in progress on the 46-mile Contra Costa Canal and on the Southern Pacific Railroad relocation around Shasta Dam reservoir site. In October, 1939 a contract was awarded for the construction of Friant Dam, to be 300 feet in height, 3,430 feet long and to contain 1,900,000 cubic yards of concrete.

### BOULDER DAM

The principal work at Boulder Dam, the highest dam in the world, located on the Colorado River in Arizona and Nevada, consisted of the erection of machinery and the installation of electrical equipment. With the eighth large generator going into operation in August, 1939, the

present installation includes six of the large 82,500-kilowatt generators in the Nevada wing and two of the large and one of the smaller 40,000-kilowatt generators in operation in the Arizona wing, totaling 700,000 kilowatts. Ultimately there will be 15 of the large and two of the small generating units in operation with a capacity of 1,317,500 kilowatts. During the year, the Bureau of Reclamation paid into United States Treasury \$5,400,000 received from the Boulder Dam and power plant, part of which, however, had been collected during the previous fiscal year. The gross income during the year, including power receipts and payments on power machinery by lessees totaled \$4,321,000.

### ALL-AMERICAN CANAL

The 80-mile All-American Canal, which will carry water diverted from the Colorado River at Imperial Dam to the rich Imperial Valley, was practically completed at the end of the year except for some structure work. The first 43-mile section of the Coachella Canal, a 130-mile branch of the All-American Canal to the Coachella Valley, was 55 per cent complete on June 30. Ultimately the two canals will bring to fruitfulness approximately 1,000,000 acres of land in the Imperial and Coachella valleys of Southern California.

### RECLAMATION RESULTS THROUGH THE YEARS

Since the origin of the Bureau of Reclamation in 1902, construction results include 20,101.4 miles of canals, ditches and drains, 156 storage and diversion dams with an aggregate volume of 52,807,194 cubic yards, 48 power houses, 2,812 buildings, 81.8 miles of tunnels, 4,661.6 miles of telephone lines, 20,597 culverts, 13,738 bridges, 2,918.1 miles of road, 172.1 miles of railroad, 4,635.1 miles of transmission lines, and 198,521 other irrigation structures. Reservoir capacity created by this construction has totaled 47,091,170 acre-feet. This work has involved the excavation of 520,485,130 cubic yards of materials, and the Bureau has used 22,659,681 barrels of cement.

## RECLAMATION AND IRRIGATION

### RECLAMATION FINANCING

Accretions to the Reclamation Fund, as established by the Act of June 17, 1902, by proceeds from the sale of public lands during the fiscal year amounted to \$281,800.41 and from the oil leasing act \$3,092,284.29. Total accretions to the Reclamation Fund since 1902 have amounted to \$202,728,224.76, of which \$112,918,424.76 has been received from the sale of public land, \$58,728,153.28 from the oil leasing act, \$802,590.91 from Federal water power licenses, \$500,755.58 from potassium royalties and rentals, and \$29,778,300.23 from receipts from Naval Petroleum Reserves, Act of May 9, 1938.

Under the Reclamation law, project water users are required to contract to repay without interest over a period of years the cost of construction of the project works which serve them and in instances where the project is operated by the Bureau, the water users pay annual operation and maintenance and water rental charges. Construction payments during the year totaled \$2,544,834.87; operation and maintenance collections amounted to \$1,183,500.02, while water rental payments totaled \$365,688.63.

### IRRIGATION PROJECTS

Since 1902 the Bureau of Reclamation has completed 40 irrigation projects or divisions of projects of which 13 are operated and maintained by the Bureau. The operation of the other 27 has been transferred to local, legally organized irrigation districts or water users associations. These are operated in accordance with rules and regulations approved or prescribed by the Secretary and in conformity with contracts under which transfers were made.

Over 903,800 persons are living on the 52,552 farms irrigated by the Bureau and in the 258 towns and cities served by Federal projects. Of the 3,106,699 acres irrigated, 3,040,695 acres were harvested in 1938, producing crops worth \$113,463,460, or an average of \$37.31 per acre. From an

investigation made as an index to prosperity, it was learned that bank deposits in banks on projects totaled \$226,645,573.

Public land farm units on the several projects are opened for settlement from time to time as canals are extended to make irrigation water available.

Projects now being constructed by the Bureau will add approximately 2,300,000 acres to the cultivated area of the arid and semiarid states. In addition, supplemental water will be provided for about 1,700,000 more acres which now have insufficient water to produce good crops. When completed, it is estimated that these new projects will provide opportunities for a total of 825,000 people on 41,600 farms and in cities and towns as yet unlocated.

### THE BUREAU LIBRARY

An engineering library of about 7,000 manuscripts, printed volumes and pamphlets on the subject of irrigation is maintained in the Washington office of the Bureau. This library contains descriptions of the construction and operation of the projects, with numerous photographs and maps, plans, specifications, cost data, and results of original experimental investigations. The Bureau also maintains a photographic file of over 75,000 negatives of scenes on the projects from the beginning of construction through the period of settlement and development. It has available for distribution motion picture films (16 and 35 millimeter) on the subjects of "Boulder Dam," "Grand Coulee Dam," and "Reclamation in the Arid West." In addition to illustrated folders and booklets, pamphlets, and leaflets on the various projects, which are mailed without charge upon request, the Bureau has published a number of valuable technical and semitechnical books which may be purchased by writing to the Commissioner, Bureau of Reclamation, Washington, D.C.

## VIII. PUBLIC RESOURCES AND UTILITIES

### PUBLIC LANDS

By FRED W. JOHNSON

#### COMMISSIONER OF THE GENERAL LAND OFFICE

---

##### GENERAL LAND OFFICE

Marked progress in the safeguarding from unwise use of valuable resources on the public domain of the United States resulted from the work of the General Land Office during the fiscal year ended June 30, 1939. Keeping pace with the national conservation program, this office, which for 150 years has served as the real estate agency of the Government, successfully effected the important transition from previous activities involving disposal of the public lands to operations designed to bring about their management and prudent use.

Efficient administration of the vital conservation program was insured through the establishment within the General Land Office of a Branch of Planning, Use and Protection, to handle problems of research and surveys, improvements of the range, and analysis and classification of the public lands. Office reorganization also included the establishment of the Branch of Adjudication and the Administrative Division.

Despite its increased responsibilities, activities of the General Land Office were conducted at a profit, total receipts during the year amounting to \$7,756,288.71, nearly four times the amount of expenditures for its operation.

##### CONSERVATION AND REGULATION

Popular interest in the conservation activities of the Office was met with the issuance of a new series of information bulletins, describing its work. By direction of Congress, the General Land Office during the year compiled and issued the 1938 edition of the official Map of the United States.

Regulation of grazing on the vacant and unreserved public lands, in order to prevent soil erosion and damage to valuable forage and water resources,

formed an important feature of the conservation work. This regulation was accomplished by the issuance of leases under Section 15 of the Taylor Grazing Act of 1934. While the primary objective sought by the issuance of the leases was the control of grazing for the purpose mentioned, the leases during the fiscal year produced a revenue of \$137,365.13, an increase of \$89,433.06 over the receipts of the previous year.

The transition from the oil and gas permit-lease system to an exclusive system of leasing under the act of Aug. 21, 1935 (49 Stat. 674), a conservation measure, was advanced well on its way to completion during the year. Four thousand eight hundred and fifty-four prospecting permits terminated, approximately one-half of which were exchanged for leases, leaving only 2,015 permits outstanding, which will terminate during 1940. In addition to the large number of oil and gas leases which were issued, initial steps have been taken, because of threatened drainage, to sell at public auction leases on numerous tracts of known oil lands.

The domestic potash industry, largely dependent on Federal-owned potash deposits, continues to draw more heavily on these deposits to meet foreign competition and to supply the farmers with this essential plant food. One notable result of its discovery in and production from public lands has been to bring the price of fertilizers more nearly within the means of the consumer.

Due to the application of scientific principles to agriculture and to the industries, many minerals in the public lands heretofore considered of slight value are now being generally exploited. Among these, vermiculite is in great demand for insulation against heat and cold, gypsum and limestone for the conditioning of soils, and several species of clays for

## PUBLIC LANDS

refining both vegetable and mineral oils. Increased activity in connection with these minerals, particularly those found near the surface, will result in erosional and other problems which will require study.

Conservation of valuable timber resources on 2,500,000 acres of revested Oregon and California railroad and Coos Bay wagon road grant lands, in Oregon, was advanced by the activities of the General Land Office. Placing the lumbering operations in the area on a sustained yield basis for the first time, administration of the tracts is being carried forward to insure the economic stability of the communities dependent upon the industry.

The number of letters and reports received for consideration or answer from all sources was 137,804, and 79,467 letters and decisions were written. The latter figure does not include letters prepared for signature in the Department and it is an increase of 7,258 over the number of letters and decisions written the preceding year.

On June 30, 1939, 5,098,829 acres were embraced in unperfected entries upon which proof of compliance with the law was not due or had not been presented. In addition, there were pending applications for exchange under Section 8 of the Taylor Grazing Act involving about 2,476,000 acres of privately-owned and state school land and about the same area of public land.

### COPIES OF RECORDS

There were furnished during the year 43,744 certified and uncertified copies of papers, plats, field notes, patents, etc., for which there were received amounts aggregating \$12,348.25. In addition, there were furnished for official use by this and other departments and agencies, 27,938 copies of such items.

### CANCELLATION OF COAL LEASES

In suits to effect the cancellation of coal leases, the practice was adopted during the year of endeavoring to obtain decrees awarding the United States such mining machinery and equipment on the leased premises as

are essential to continue mining operations. The value of these items is not included in the amount for which judgment is sought. The existence of the machinery and mining equipment on the premises as the property of the United States should result in higher bonus bids being made than otherwise would be received, when the lands again are offered for lease.

### BOARD OF EQUITABLE ADJUDICATION

There were decided on principles of equity and referred to the Board of Equitable Adjudication and confirmed 1,392 homestead entries of public lands, 41 homestead entries of revested and reconveyed lands in Oregon, 39 homestead entries of ceded Indian lands, 19 reclamation homesteads, and 55 desert-land entries.

### REPORTS ON BILLS

Reports were submitted on 117 Senate and House bills, and necessary orders and instructions have been prepared or are in course of preparation in connection with bills, public and private, affecting the public lands, which were enacted into law. Reports were made on seven enrolled bills.

### DISTRICT LAND OFFICES

The district land offices, each having jurisdiction over public lands within specified boundaries, are located as follows:

Alaska	New Mexico
Anchorage	Las Cruces
Fairbanks	Santa Fe
Nome	North Dakota
Arizona	Bismarck
Phoenix	Oregon
California	Lakeview
Los Angeles	Roseburg
Sacramento	The Dalles
Colorado	South Dakota
Denver	Pierre
Pueblo	Utah
Idaho	Salt Lake City
Blackfoot	Washington
Coeur d'Alene	Spokane
Montana	Wyoming
Billings	Buffalo
Great Falls	Cheyenne
Nevada	Evanston
Carson City	



## VIII. PUBLIC RESOURCES AND UTILITIES

### O. AND C. ADMINISTRATION

The O. and C. Administration, with headquarters at Portland, Ore., has general supervision of activities involving the Oregon and California railroad grant and Coos Bay wagon road grant lands, Oregon. Its function is to administer these lands in such a manner that a continuous and adequate supply of forest crops will be available for the perpetuation of local communities and industries.

### RANGE DEVELOPMENT SERVICE

The Range Development Service, with headquarters at Washington, D.C., supervises the construction, purchase and maintenance of range improvements on the public lands subject to lease under Section 15 of the Taylor Grazing Act. It was established pursuant to the provisions of the Taylor Grazing Act of June 28, 1934 (48 Stat. 1269), as amended by the act of June 26, 1936 (49 Stat. 1976), and as supplemented by the Second Deficiency Appropriation Act, fiscal year 1938 (52 Stat. 1129). The act last cited appropriated \$60,000 for this work, with the limitation that the expenditures should not exceed 25 per cent of the receipts during the fiscal years 1938 and 1939. The receipts for these years were \$185,297.20.

The range improvement program was put into operation towards the latter part of January, 1939, in Arizona, the operating point being Phoenix. The type of improvement necessary varies with the locality and local conditions. In Arizona, the development of water for stock driveways and the erection of drift fences were the principal types of improvements made. As a general rule, range improvements which would benefit several stockmen were given preference. Improvements on the public domain inuring to the benefit of individual lessees were secondary in consideration.

To eliminate maintenance charges of range improvements, cooperative agreements were entered into between the United States and individual lessees, whereby the lessees agreed to contribute toward the construction of the improvements, either in money,

labor or material, or part or all of these items, whenever such agreements were acceptable to the lessees, and the lessees agreed to maintain the improvements. This permitted a more comprehensive program to be undertaken with the available funds than otherwise would have been possible.

Between Jan. 17, 1939, the date of approval by the Secretary of the Interior, of the range program, and June 30, 1939, 23 range improvements were constructed in Arizona at a total cost of \$10,516.84, benefiting 437,342 acres. The United States expended \$8,676.11 and the individual lessees contributed \$1,840.73.

### PUBLIC SURVEY OFFICES

The public survey offices, under the Supervisor of Surveys at Denver, Colorado, are located as follows:

Alaska	Nevada
Juneau	Reno
Arizona	New Mexico
Phoenix	Santa Fe
California	Oregon
Glendale	Portland
Colorado	Utah
Denver	Salt Lake City
Idaho	Washington
Boise	Olympia
Montana	Wyoming
Helena	Cheyenne

The Cadastral Engineering Service of the General Land Office executes cadastral surveys and resurveys of the public lands in the United States and Alaska; supervises mineral surveys for patent purposes; prepares the field notes and plats for such surveys, and acts as custodian of the records.

Cadastral survey projects were carried on in 24 states, the Territory of Alaska, and the District of Columbia, under 220 separate groups, 111 of which in 17 states were resurvey projects. A total of 36,249 miles was surveyed and resurveyed, embracing 5,992,000 acres, in addition to engineering investigations, miscellaneous surveys, and special projects which are not measurable on a quantity basis.

# PUBLIC LANDS

## RECEIPTS AND EXPENDITURES

Total cash receipts from leases, sales and other disposals of public lands (including receipts from copies of records, sales of government property, etc.) were \$7,719,579.53, and from Indian lands \$36,709.18, an aggregate of \$7,756,288.71, all of which

was deposited in the Treasury. The total expenditures from appropriations made for the conduct of the bureau was \$2,046,201.00. The excess of receipts over expenditures was \$5,710,-087.71. The receipts were \$691,086.26 less than for 1938, but were larger than for any other year since 1927.

## RECEIPTS UNDER THE TAYLOR GRAZING ACT

	District No.	By Districts	By States	Fees and Rentals Under Section 15	State Totals
Arkansas.....	....	\$ .....	\$ .....	\$ \$5.00	\$ . 5.00
Arizona.....	1	17,529.03			
	2	8,281.05			
	3	1,704.80			
	4	12,524.89	40,039.77	21,045.35	61,085.12
California.....	1	11,285.13			
	2	20,668.51	31,953.64	9,034.18	40,987.82
Colorado.....	1	18,405.00			
	2	2,885.99			
	3	13,835.18			
	4	6,501.25			
	6	5,036.48	46,663.90	3,181.24	49,845.14
Idaho.....	1	38,082.55			
	2	35,932.02			
	3	19,009.63			
	4	12,476.32	105,500.52	5,272.30	110,772.82
Montana.....	1	342.36			
	2	5,729.96			
	3	5,684.74			
	4	943.91			
	5	5,962.25	18,663.22	19,023.32	37,686.54
Nebraska.....	....	.....	....	50.18	50.18
Nevada.....	1	54,400.66			
	2	37,464.15			
	3	14,012.90			
	4	27,199.75			
	5	2,324.68	135,402.14	....	135,402.14
New Mexico.....	2	19,564.65			
	3	37,199.98			
	4	27,960.98			
	5	8,779.57			
	6	48,998.16	142,503.34	4,971.63	147,474.97
Oklahoma.....	....	.....	....	9.00	9.00
Oregon.....	1	1,233.92			
	2	20,971.95			
	3	21,124.79			
	4	15,176.92			
	5	5,450.43			
	6	7,577.68			
	7	816.66	72,352.35	5,957.08	78,309.43
South Dakota.....	....	.....	....	1,117.80	1,117.80
Utah.....	1	7,749.44			
	2	19,540.37			
	3	31,918.40			
	4	12,081.00			
	5	17,305.53			
	6	18,498.46			
	7	17,679.80			
	8	12,458.61	137,231.61	....	137,231.61
Washington.....	....	.....	....	2,187.37	2,187.37
Wyoming.....	1	27,382.85			
	2	18,355.12			
	3	23,092.39			
	4	31,987.49			
	5	6,910.99	107,728.84	65,510.68	173,239.52
Grand total.....			\$838,039.33	\$137,365.13	\$975,404.46

# VIII. PUBLIC RESOURCES AND UTILITIES

Receipts from bonuses, royalties and rentals under laws providing for the leasing rights on the public domain (including royalties and rentals on potash deposits and royalties on coal leases in Alaska) aggregated \$5,932,492.14. The largest receipts under the act of Feb. 25, 1920, were from lands in California, the amount being \$2,705,140.39. Wyoming was second with \$1,715,298.60.

## GRAZING LEASES UNDER SECTION 15, TAYLOR GRAZING ACT

On July 1, 1938, there were 3,628 applications and petitions for renewal of the temporary one-year grazing leases pending in the General Land Office, and during this fiscal year 1,669 new applications for leases were received.

During the past year 2,341 offers of leases have been made, ranging from

## ORIGINAL ENTRIES

	Public Land		Indian Land	
	Number	Acres	Number	Acres
Homesteads:				
Stockraising.....	47	23,690	2	1,273
Enlarged.....	28	7,631	1	315
Reclamation.....	59	6,845	4	542
Forest.....	7	650	...	...
Section 2289, et al.....	237	27,566	25	2,413
Total homesteads.....	378	66,382	32	4,543
Deserts.....	25	3,070	....	....
State selections.....	43	156,027	....	....
Railroad selections.....	1	7,011	....	....
Applications and filings.....	154	...	....	....
Miscellaneous.....	53	64,707	....	....
Total.....	654	297,197	....	....
Indian land as above.....	32	4,543	....	....
Grand total.....	686	301,740	....	....

## FINAL ENTRIES

	Public Land		Indian Land	
	Number	Acres	Number	Acres
Homesteads:				
Stockraising.....	2,054	966,413	106	49,531
Enlarged.....	168	40,437	35	7,766
Reclamation.....	100	9,991	39	3,533
Forest.....	32	3,197	....	....
Commuted.....	8	998	29	2,041
Section 2289 et al.....	719	68,900	55	5,461
Total homesteads.....	3,081	1,089,936	264	68,332
Deserts.....	87	11,571	5	586
Public auction.....	119	14,226	6	1,088
Timber and stone.....	12	892	....	....
Mineral.....	127	7,818	13	945
Miscellaneous.....	212	2,340	22	346
Total.....	3,638	1,126,783	310	71,297
Indian land as above.....	310	71,297	....	....
Grand total.....	3,948	1,198,080	....	....

## PUBLIC LANDS

one to five years. The area in these proposed leases is approximately 3,647,130 acres, with an annual rental of \$61,259.54. There have been 2,678 grazing leases executed and delivered to the lessees during this period. The following table shows by land districts the number of executed leases, the acreage involved and the annual rental thereunder:

Office	No.	Rental	Area
Phoenix.....	398	\$13,864.69	1,197,411.70
Los Angeles....	41	702.94	99,786.39
Sacramento....	106	4,578.89	550,819.73
Denver.....	106	1,920.61	96,487.68
Pueblo.....	90	1,531.30	108,355.84
Blackfoot.....	103	1,620.86	44,035.48
Coeur d'Alene..	57	1,644.48	61,320.74
Billings.....	61	1,034.71	33,363.29
Great Falls....	217	6,595.31	249,399.75
Las Cruces....	86	1,033.79	50,109.78
Santa Fe.....	163	3,252.89	210,672.51
Lakeview.....	33	143.52	13,871.40
Roseburg.....	13	74.82	5,241.39
The Dalles....	251	2,182.87	188,802.32
Pierre.....	40	905.48	44,081.08
Spokane.....	111	820.89	70,868.43
Buffalo.....	197	5,160.84	161,584.45
Cheyenne.....	579	25,450.89	787,357.72
Evanston.....	21	588.17	19,740.57
G.L.O.....	5	57.21	839.95
<b>Total.....</b>	<b>2678</b>	<b>\$73,165.16</b>	<b>3,994,150.20</b>

### PATENTS AND CERTIFICATES

	Number	Acres
<b>Homesteads:</b>		
Stockraising.....	2,558	1,268,213
Enlarged.....	309	76,555
Reclamation.....	185	17,278
Forest.....	39	3,610
Section 2289, et al....	967	102,058
<b>Total homesteads....</b>	<b>4,058</b>	<b>1,467,714</b>
<b>Deserts.....</b>	<b>95</b>	<b>11,863</b>
Public auction.....	139	16,989
Timber and stone.....	7	439
Mineral.....	152	8,830
Railroad.....	5	2,403
Special acts.....	192	1,460,933*
Miscellaneous.....	1,039	85,514
<b>Total patents.....</b>	<b>5,687</b>	<b>3,054,685</b>
<b>Certified to States.....</b>	<b>....</b>	<b>226,539</b>
<b>Grand total.....</b>	<b>5,687</b>	<b>3,281,224</b>

\* Includes 1,298,790 acres of school section land, patented to the State of Montana under the act of June 21, 1934 (48 Stat. 1185).

### LANDS PATENTED WITH MINERAL RESERVATIONS

The following table shows the areas patented during the year and the total areas heretofore patented in which minerals in some form have been reserved to the United States.

	Fiscal Year	Total
	Acres	Acres
Stockraising act, all minerals reserved....	1,268,213	31,709,557
Other acts:		
All minerals reserved..	148,672	755,164
Coal only reserved....	7,479	10,819,481
Some named minerals reserved.....	17,108	1,803,068
<b>Total.....</b>	<b>1,441,472</b>	<b>45,087,270</b>

### SUMMARY OF AREAS ON OUTSTANDING LEASES, PERMITS

(As of June 30, 1939)

Leases.....	2,748	2,399,618
Permits.....	2,218	3,377,782
Licenses.....	85	3,301
<b>Total.....</b>	<b>5,051</b>	<b>5,780,701</b>

### LEASES OTHER THAN MINERAL

(Outstanding June 30, 1939)

Class	Number	Acres
Term grazing leases under Taylor Grazing Act*....	4,093	5,830,743
Grazing leases, Alaska....	12	884,633
Fur farm leases, Alaska....	34	172,650
Aviation leases and permits		
Leases.....	26	13,123
Beacon Permits.....	5	956
Leases for mineral and medicinal springs.....	1	40
Recreational leases		
Act June 14, 1926.....	16	14,655
Act June 30, 1932.....	1	20
Leases for water wells....	2	80
<b>Total.....</b>	<b>4,190</b>	<b>6,916,900</b>

\* In addition, there were outstanding on June 30, 1939, 841 offers of term grazing leases covering 1,783,513 acres.



# VIII. PUBLIC RESOURCES AND UTILITIES

## MINERAL LEASES, PERMITS AND LICENSES

(Outstanding June 30, 1939)

Class	Leases		Permits		Licenses	
	No.	Acres	No.	Acres	No.	Acres
Oil and Gas.....	1,237	545,146	2,015	3,185,692	..	....
O & G act 8/21/35.....	1,116	1,740,555	....	....	..	....
Coal.....	369	68,552	121	92,566	85	3,301
Potash.....	16	40,882	12	15,274	..	....
Phosphate.....	7	3,292	....	....	..	....
Sodium.....	3	1,191	43	66,742	..	....
Sulphur.....	....	....	27	17,508	..	....
Total.....	2,748	2,399,618	2,218	3,377,782	85	3,301

## PUBLIC UTILITIES

By JOHN A. BAUER

DIRECTOR, AMERICAN PUBLIC UTILITIES BUREAU

The year 1939 witnessed more than usual developments in the field of public utilities. They occurred principally within the Federal domain, but also under state and municipal jurisdiction. In important instances the state and municipal activities were associated with the Federal.

### TENNESSEE VALLEY AUTHORITY

Public attention has centered extensively upon the Tennessee Valley Authority. First, there was the report of the special Joint Congressional Committee; second, the public purchase of the private electric properties in Tennessee; and, third, the municipal electric systems established in connection with the purchase. In addition, early in the year the Supreme Court negated the suits brought by private companies against the TVA power projects.

The Joint Congressional Committee was created in 1938, and it made its reports in the spring of 1939. The Committee held numerous hearings and obtained the testimony of TVA directors and officials, also of utility company officials and of others who had significant facts or opinions to give. It engaged also a technical staff which presented factual data as to policies, activities, costs and other financial matters involved.

In its findings and recommendations the Committee made a majority and minority report. The first made some criticisms of TVA practices, but basically found the organization and activities satisfactory and in conformity with the purposes of the law. The minority criticized the activities severely, particularly the accounting and financial policies on the basis of which, rates are fixed both for wholesale and retail. It contended that the costs were not properly determined, that electric power was subsidized, and that the rates as fixed were unfair toward the private companies. The investigation left TVA essentially unchanged, except that there was less Congressional liberality in making appropriations for future construction. Former Senator James P. Pope of Idaho was appointed as one of the directors to replace the removal of former Chairman A. E. Morgan.

The pivotal TVA development was the purchase of the properties owned by the Tennessee Electric Power Company. Director David E. Lilienthal had been conducting negotiations for a considerable period and reached an agreement during the spring for the purchase of the properties. The total purchase price was \$78,600,000, of which the TVA itself

## PUBLIC UTILITIES

assumed about \$45,000,000. The balance was assumed primarily by the municipalities and districts in which the properties are located. The policy thus established is to obtain complete public ownership of electric properties within the TVA territories and so eliminate private competition.

In connection with this policy there have been established REA (Rural Electrification Administration) cooperatives together with municipally owned and operated distribution systems. Prior to 1939 the City of Knoxville had purchased the local electric properties and entered into a contract with TVA for the purchase of wholesale power. During the year three important municipal systems were added at Memphis, Chattanooga and Nashville. In each instance the properties were paid for by the issuance of revenue bonds, outside of the general municipal debts. Local operating organizations were established on the basis of long-range financial terms in harmony with TVA policies. The interest rates ranged from 2.3 per cent to 3.6 per cent on the bond issues.

Illustrative of these important municipal undertakings is the set-up of Nashville, Tenn. The base purchase price paid by the city was \$14,311,200, plus about \$60,000 for improvements made by the Tennes-

see Electric Power Company after June 1, 1939. The city issued \$15,000,000 revenue bonds to be paid serially over a period of 20 years, at a composite interest rate of 2.32 per cent. The properties are operated by the Electric Power Board, a semi-autonomous body vested with exclusive management and control. This Board entered into a contract with TVA for the purchase of electric energy for a period of 20 years. The contract provides for complete self-sustaining operation, including provisions for future reduction in rates.

The TVA policies as thus established have practically extended public ownership and operation throughout the TVA territory. They will doubtless exert also great influence in adjacent regions, particularly in municipalities which are affected by industrial competition with TVA cities. The low rates sponsored by TVA will attract industries and so inevitably will stimulate competition with adjacent sections, if not throughout the country.

### PUBLIC WORKS PROJECTS

Apart from TVA, progress has been made with other Federal electric projects, especially those sponsored by the Public Works Administration (now Federal Works Agency). The advances have been in line with pre-

Project	PWA Federal Allotment	Total Estimated Cost	Installed Capacity
Arizona-Nevada: Boulder Canyon.....	\$38,000,000	\$135,000,000	1,317,500 <sup>1</sup>
California:			
All-American Canal.....	10,000,000	38,500,000	<sup>3</sup>
Central Valley (Shasta).....	2,000,000	170,000,000	375,000 <sup>1</sup>
Colorado: Colorado-Big Thompson.....	1,150,000	44,000,000	142,500 <sup>1</sup>
Montana: Fort Peck.....	49,531,000	122,900,000	71,500 <sup>2</sup>
New Mexico:			
Rio Grande-Elephant Butte.....	2,000,000	20,300,000	27,000 <sup>1</sup>
Tennessee:			
Tennessee Valley Authority.....	50,000,000	494,000,000	793,100 <sup>2</sup>
Washington-Oregon: Bonneville.....	42,950,000	75,000,000	86,400 <sup>2</sup>
Washington: Grand Coulee.....	27,005,000	394,500,000	1,944,000 <sup>1</sup>
West Virginia: Tygart.....	10,000,000	18,300,000	<sup>3</sup>
Wyoming: Kendrick.....	9,130,000	20,000,000	37,500 <sup>1</sup>
Texas: Marshall Ford Dam.....	11,250,000	24,991,000	<sup>3</sup>
Total.....	\$253,016,000	\$1,557,491,000	

<sup>1</sup> Kilovolt-amperes.

<sup>2</sup> Kilowatts.

<sup>3</sup> No initial installation.

## VIII. PUBLIC RESOURCES AND UTILITIES

viously established programs, and mostly do not permit definite separation for 1939. The foregoing table is a summary of the principal projects which include hydro-electric features financed in whole or in part with funds supplied by the PWA during the years 1933-1939.

Besides these Federal undertakings, PWA has made also allotments totaling about \$205,000,000 for 339 non-Federal electric power projects, estimated to cost \$249,000,000. This amount includes six multiple-purpose projects for which separation of costs by type of construction is impracticable. It covers new construction of generating plant, transmission lines, and distribution systems, also additions to existing properties.

Among the Federal projects, public attention has centered extensively in Bonneville. First, Administrator J. D. Ross, one of the foremost electric power authorities in the country, died early in the year. His position was filled by the appointment of Dr. Paul J. Raver, well-known power economist, who had been executive officer of the Illinois Commerce Commission. During the year contracts for the sale of power were made with power districts, cooperatives and municipalities, also with private companies. A promotional rate schedule was adopted so as to encourage maximum use of electricity for all economic and social purposes. While the policy of public ownership has been less marked than in TVA territory, the forces of public replacement of the private systems appear to be moving rapidly. The general trend appears to be toward general public ownership in any locality where an important public power project has been established. Important public and private operation can hardly be continued long within the same region.

### RURAL ELECTRIFICATION

As a separate but integrated feature of Federal electric activities is the Rural Electrification Administration. This was created in 1935 as an independent body, but during the

past year was placed within the Federal Works Agency.

The function of REA is to promote rural electrification. It furnishes financial assistance and proceeds through agreements with private companies, municipal systems and co-operatives. Through its efforts REA has greatly expedited the extension of rural electric service, and has brought about lowering of costs and rates. Its *Progress Bulletin*, under date of Oct. 7, 1939, states that since 1935 it had made total allotments of \$258,348,000, of which \$34,217,000 represent developments during the current fiscal year.

These funds have been lent to 670 local groups, of which nearly 90 per cent are cooperatives. They have been used chiefly to build about 240,000 miles of rural power lines which, when completed, will make electricity available for the first time to 750,000 farms. The rate of recent progress has been approximately 500 miles of newly completed lines for each working day. On June 30, 1935, 10.6 per cent of American farms had electric service. On June 30, 1938, this had reached 19.1 per cent.

### FEDERAL POWER COMMISSION

The Federal Power Commission continued along lines previously established through legislation. It has been concerned particularly with bringing about revision in plant accounting on the basis of actual or historical cost. It continued its studies and reports on comparative electric bills, and started a national rate book which keeps up to date all the rates for the various companies. It has cooperated with state commissions and municipalities in matters involving interstate properties and transmission of electric energy.

This was the first year of administering the regulation extended by Congressional action in 1939 over natural gas supply and transmission companies. The Commission has established a basis of regulation, has accumulated extensive financial and operating data, and particularly has initiated rate investigations. In this connection it has been laying the

## PUBLIC UTILITIES

foundations for future policies, standards, and procedure, especially as to rate base and provisions for depreciation and depletion. It has cooperated with state commissions and municipalities in these initial rate matters. It appears to be aiming at the adoption of prudent investment as rate base.

### SECURITIES AND EXCHANGE COMMISSION

The Securities and Exchange Commission made its first important strides during the year in the administration of the Public Utility Holding Company Act of 1935. Since the decision of the U.S. Supreme Court, March, 1938, in the Electric Bond and Share Company case, the utility holding companies subject to the provisions of the act have registered with the Commission. At the close of its fiscal year, June 30, 1939, there were 151 registered systems, comprising 142 holding companies and 1,524 individual holding, sub-holding, and operating companies. Their total consolidated assets amounted approximately to \$14,000,000,000.

During the year the Commission advanced also the enforcement of corporate simplification and property integration. Under Section 11 each holding company system is limited to a single integrated territory which is neither interconnected or can be economically interconnected as a continuous service area. Any such system, however, may be permitted also an additional one or more integrated areas, provided, among other conditions, that these are located in the same state or in adjoining states, and can be economically operated under the single control.

The provisions for integration and corporate simplification are the crux of the 1935 requirements. The Commission has called upon the various systems to submit their own plans for compliance with the act, subject to the Commission's approval. As yet it has not adopted or announced specific standards and procedure. Near the end of the year it announced forthcoming hearings on integration, presumably for considera-

tion of objectives, principles and programs within the general terms of the law. Through the pressure of integration, there may be substantial advancement in municipalization, especially in instances where local disadvantage would be incurred through the system transfer of properties.

To a large extent, integration will presumably take place through exchange of properties between holding company systems, through the processes of purchase and sale. As to all such transactions, the consent of the Commission will be required. The broad purpose is to obtain sensible integration within reasonable standards of valuation and capitalization. The year 1940 should mark definite progress in the attainment of corporate simplification and property integration.

### FEDERAL COMMUNICATIONS COMMISSION

In June, 1939, the Federal Communications Commission delivered to Congress its final report on its special telephone investigation. Part II contains a summary of the salient points developed during the investigation, and presents the regulatory problems with which the Commission is faced. It makes recommendations for additional legislation for the purpose of establishing clearer principles, standards and procedure of regulation. It seeks to clarify the responsibility and authority of the Commission, and urges upon Congress to make adequate appropriations to carry out the regulatory functions.

Up to the present the Commission's jurisdiction, powers and funds have not been adequate to provide the necessary regulation of the country-wide telephone monopoly of a stated \$5,000,000,000 investment. Apart from the special investigation, the Commission has been accumulating regular information with respect to financial and operating data. It has made comparative tabulations of interstate and intrastate toll rates, has made the facts available to state regulatory bodies, and has facilitated cooperation in matters of public control. In the telephone industry there is par-



## VIII. PUBLIC RESOURCES AND UTILITIES

ticularly inter-dependence of cost factors affecting local, inter-community, and interstate telephone rates.

In July 1939, upon complaint of the Department of Public Service of the State of Washington, the Commission undertook an investigation of interstate toll telephone rates charged by the Pacific Telephone and Telegraph Company and its subsidiaries. This is an important instance of the sort of cooperation that is essential between Federal commissions with jurisdiction over interstate rates and state commissions with responsibility over intrastate and local rates.

### MUNICIPAL TRANSPORTATION SYSTEMS

For the past ten years or more the municipal transportation systems have been operated extensively under conditions of financial pressure. Their difficulties have consisted primarily of over-capitalization, failure to liquidate electric railway investments as required by advancing transportation, and inadequacy in adopting the more modern, attractive, and efficient modes of transportation.

In most cities the local transportation systems have consisted of street railways. With the development of automobiles and buses, street railways have encountered increasing competition, and they have been unable to keep adequate traffic volumes to support the operating costs and capital charges imposed by the corporate structures. Consequently, they have mostly been operated under financial strain, have not furnished proper transportation, and are facing the crucial needs of financial readjustment and system transformation.

In the smaller cities of 50,000 population and less, street railway transportation has practically disappeared, and bus operation has been extensively substituted. In the larger cities, especially those of metropolitan size, the electric railways continue because of their strategic location in the heavy traffic streets, and because of their corporate and financial entrenchments. Conditions, however, have been gradually reaching a crisis,

which is illustrated by the efforts during the past year by the City of Cleveland to come to a readjustment with the Cleveland Railway Company, with the aim of capital reduction and extensive substitution of bus operation. Likewise in Pittsburgh, the street railways have been the subject of long public discussion, and now they are before the Federal court for financial readjustment under the provisions of so-called Section 77 B. Most large cities are struggling with unsatisfactory conditions. To study them and to consider policies for improvement, a public transportation committee has been organized at the initiative of the National Municipal League, the U.S. Conference of Mayors, and the American Municipal Association.

Among the great metropolitan cities, which in addition to street railways have rapid transit, there has also been struggle with critical conditions. This has included Chicago where the construction of subways has been started, Philadelphia where reorganization of the Philadelphia Rapid Transit Company has been effected, and New York City where a special constitutional debt exemption of \$315,000,000 has been provided for acquisition of the privately operated rapid transit systems. Within this new debt provision, New York City has practically effected the municipalization of subway and elevated lines, also to considerable extent the surface transportation. The rapid transit properties thus to be acquired will presumably be operated in conjunction with the existing municipal subways, as a single unified system. This will subsequently be extended and enlarged, and will probably include also surface transportation, especially bus systems integrated as feeder and distributing lines. These developments are the country's chief extension for many years in municipal ownership and operation.

### GENERAL REGULATORY ADVANCES

No fundamental changes took place in the general field of public utility regulation. An important case from

## WATER SUPPLY

the Pennsylvania commission went to the U.S. Supreme Court for decision. This involved the validity of temporary rates fixed under the 1937 state regulatory act. The rates were assailed by the company affected on the ground that they were confiscatory, not furnishing a fair return on the value of the properties. They were sustained, however, by the Supreme Court as not confiscatory and not depriving the company of a fair return. This decision took into account the fact that any temporary inadequacy of return would receive consideration in the final determination of the rates within the provisions of the state law. The general legal validity of temporary rates has thus been established, and this furnishes needed flexibility in dealing with utility rate adjustments during conditions of rapid economic change and emergency.

In connection with the temporary rate case, the Federal Power Commission and other Federal boards intervened, and particularly urged upon the Supreme Court that it reverse its position on "fair value" and recognize "prudent investment" as the valid basis of rate control. The intervening brief reviewed the grave difficulties encountered by rate administration under the traditional rule of fair value. This consists primarily of factors which depend upon judgment and expert testimony, rather than clear facts which can be ascertained as a matter of definite record. The fair value rule thus promotes conflicts of interest between utilities and the public, and leads to litigation rather than systematic regulation. The brief urged the adoption of

prudent investment primarily on the grounds of its definiteness as to fact, and therefore its administrability for effective rate control.

The issues between fair value as upheld since 1898 by the Supreme Court and prudent investment have been discussed extensively in regulatory literature, and have been urged repeatedly before the Supreme Court. While the decision in the Pennsylvania case upheld the temporary rates, which were predicated principally upon prudent investment, the Supreme Court nevertheless refused to depart from its past formal position. While it indicated tolerance toward prudent investment, its decision has left the matter of rate base essentially where it has been for many years, with its uncertainties and in-administrability.

Notwithstanding the difficulties of rate control, the pressure for rate revisions and reductions has continued throughout the country. While prudent investment is not the legal rate base, to considerable extent commissions have used this standard in terms of approximate figures for analysis as to whether rates are excessive and should be reduced. They have employed such financial showing in negotiating informally with the companies, and bringing pressure for reductions. The downward trend in rates is indicated by such instances of reductions as over \$1,000,000 a year to electric and gas consumers in Maryland, about \$1,300,000 in Indiana, about \$1,000,000 in Wisconsin, approximately \$1,300,000 in New Jersey, and over \$3,000,000 in California, as reported by the commissions of those states.

## WATER SUPPLY

BY ROBERT SPURR WESTON

WESTON & SAMPSON, BOSTON

### P.W.A. ALLOTMENTS FOR WATERWORKS

The summary of the allotments for waterworks systems by the Public Works Administration as of Dec. 30,

1939 amounted to \$167,366,262, of which \$113,444,090 consisted of grants to applicants and the remainder of loans to same. The number and estimated costs of various works are as

## VIII. PUBLIC RESOURCES AND UTILITIES

compiled in the following tabulation:

Works	Number	Cost	Funds Supplied by Applicants
Water mains.	251	\$30,254,604	\$14,704,029
Purification plants....	118	18,450,474	10,863,998
Reservoirs....	182	26,557,298	10,740,460
Complete works.....	1,860	235,131,425	106,719,052
Total...	2,411	\$310,393,801	\$143,027,539

In addition, allotments were made for multiple type projects, wherein two or more units, only one of which was a waterworks, were included. With waterworks included, allotments as of April 11, 1939 had been made for 2,691 works, estimated to cost \$380,795,162, and for additions and improvements to 1,803 works to cost \$329,893,051. During 1940, the Public Works Administration will be undergoing liquidation to comply with the statutory requirement, namely, that projects must be substantially completed by June 30, 1940 and finished entirely by June 30, 1941. However, some extensive works, the new aqueducts for the Metropolitan District Commission of Boston, for example, are yet a considerable way from completion.

The minimal cost of public works in 1939 as reported by the *Engineering News Record* was \$162,921,000. This is 24.2 per cent more than the \$131,209,000 for 1938. Both estimates include the relatively small expenditures for Federal works, but exclude works costing less than \$15,000. The expenditure for water-works was estimated at 7.7 per cent of that for public works of all kinds.

### WATER SOURCES AND TREATING PLANTS

The State Sanitary Engineers have estimated that over 81,000,000 people, or 66.17 per cent of the total population, are served by community water systems, and nearly 69,000,000, or 84.55 per cent, of those so supplied are furnished with treated water.

The sources of water are as follows:

Source	Number of Works
Driven and bored wells.....	6,473
Springs and shallow wells.....	1,863
Infiltration galleries.....	147
Total ground sources...	8,483
Streams.....	2,326
Lakes.....	797
Total surface sources.....	3,123
Combined supplies.....	1,023
Total sources.....	12,629

The numbers of plants using various treatment facilities are as follows:

Treatment	Number of Plants
Slow sand filters.....	97
Rapid gravity filters.....	1,739
Rapid pressure filters.....	352
Disinfection—(by chlorine, 4,015).....	4,054
Softening.....	526
Deferization and demanganization.....	417
Taste and odor control.....	1,187

### NEW BOSTON RESERVOIR

Storage in the new 415,000,000,000-gallon Quabbin Reservoir for the supply of Boston began on Aug. 7, 1939. In addition, the District is constructing a new pressure aqueduct, 18 miles long, to extend from the terminal chamber of the existing Wachusett Aqueduct to the Boston District. This aqueduct consists of two miles of colossal reinforced concrete pipe, 12.5 ft. in diameter, three miles of 14-ft. tunnel passing beneath the Sudbury Reservoir, and 12.5 miles of pipe 11.5 ft. in diameter, the latter connecting with the present distribution system. There are also connections with the existing Weston Aqueduct and additional siphons at two river crossings to increase its capacity. The plant also includes a new distributing reservoir, and, for ultimate development, a loop tunnel in rock to encircle the district and further better distribution. The cost will exceed \$13,000,000.

### NEW YORK WATER SUPPLY

The work on the new Delaware supply for the City of New York is progressing rapidly. The first construction will include reservoirs on Neversink and Rondout creeks, a tunnel six miles long, and 85 miles of



## WATER SUPPLY

continuous deep pressure tunnel in the rock, 13.5 to 19.5 ft. in diameter—all to cost \$210,000,000.

Some water should be delivered from this development in 1941 because a crying need exists. The safe yield of the present sources is only about 935 M.g.d., while the consumption of water is 995 M.g.d., a condition which during the drought of 1939 required the curtailment of use.

### SOUTHERN CALIFORNIA SUPPLY

The monumental Colorado River supply, which was started in 1929 by the Metropolitan Water District of Southern California to supplement the existing Owens River Valley supply and an earlier supply from wells, is approaching completion. Pumping at the intake at the Parker Dam began on Jan. 7, 1939.

These works, also described in previous years, will bring water from the Colorado River 300 miles through mountains and across the desert to the Cajalco receiving reservoir from which 13 cities will be supplied. The route was chosen to minimize earthquake hazards, but involves a pumping lift of 1,300 feet in five steps, also 25 tunnels with a total length of 92 miles including the difficult one through the San Jacinto range, 140 valley crossings with a total length of 92 miles, and 62 miles of open channel. Furthermore, there are additions to the distribution system involving about 16 miles of tunnels and 54 miles of pipe lines. It is expected that water will be delivered to the District in the early fall of 1940.

The estimated cost of the works was \$220,000,000 but the actual cost will be about \$20,000,000 less. For farsightedness and its completion, the work is indebted to the late William Mulholland, C. E., who early foresaw the necessity for this new development and began the study of possibilities in 1923.

While the supply is abundant the water is turbid and while it will be passed through several reservoirs where subsidence will occur it will require treatment which will include softening because of the hardness of

the water. Studies toward this end are in progress.

In addition, work on the Mono Basin project, 350 miles north of Los Angeles, is still under way and extensive improvements to the distribution system are to follow.

### SAN FRANCISCO AND ELSEWHERE

The O'Shaunessy Dam of the Hetch-Hetchy Reservoir supplying San Francisco, built in 1923, has been raised 85.5 ft. at a cost of \$3,477,000. Corpus Christi, Tex., which is growing rapidly, has added a 30-inch aqueduct, 16 miles long, to connect the city with its water purification plant on the Nueces River. At Atlanta, good progress on improvements to cost \$1,250,000 is being made. Modernization which includes the installation of new pumping equipment is well under way. Tacoma, Wash., with Federal aid, has completed a great variety of improvements to its water system at a cost of over \$4,657,000. Hartford, Conn., has completed the Saville dam, 137 ft. high, with adequate spillway, for the impounding of Farmington River, at a cost of \$2,850,00.

### NEW PROJECTS

**New Jersey.**—Governor Moore of New Jersey has recommended a supply from the Delaware River to be taken through the abandoned Delaware and Raritan Canal. This water would be pumped through pressure filters to a reservoir located north of Bound Brook, thence distributed to the populace in the northeastern district of the state. The estimated cost is \$44,133,000. In previous years, two gravity supplies from tributaries of the Delaware have been recommended. These would involve higher costs for purification and acquirement of water rights but would avoid the cost of pumping inherent in the low-level source.

**Pittsburgh** is considering a new supply on one of the upper tributaries of the Allegheny River in place of its present one from the river just above Pittsburgh. However, the low typhoid fever death rates and appearance of the purified water now delivered from



## VIII. PUBLIC RESOURCES AND UTILITIES

the lower river to Pittsburgh and its neighboring city, Wilkinsburg, indicate excellent purification.

**Toledo.**—Cities bordering on the Great Lakes are abandoning unsuitable supplies from tributaries and, like Chicago, Milwaukee and Detroit, are resorting to the lakes for softer, more abundant, and purer water. Toledo and Sandusky, O., and Grand Rapids and Mt. Clement, Mich., have recently taken this step. Toledo is replacing the polluted Maumee River with Lake Erie as a source of water supply. The new works include an intake two miles from shore, three miles of intake conduit, 9 ft. in diameter, a low-lift pumping station on the lake shore, and a 78-in. pipe line two miles long, to a purification plant at the city's edge, a filtered water reservoir, a high-lift pumping station, and a water main across the city. More than half the work is under contract.

**Grand Rapids** (population 170,000) has gone to Lake Michigan for a new supply. The works with a capacity of 55,000,000 gallons a day include a tunnel 54 in. in diameter and 6,000 ft. long, and an aqueduct 46 in. in diameter and 30 miles long, also two high-lift pumping stations, distributing reservoir and appurtenances. They will cost \$4,100,000 and will be adequate for a population of 250,000 or until 1968. It is estimated that enough saving will be made in the cost of treatment over that for the present harder supply from Grand River to carry the cost of the new works.

### WATER PURIFICATION

Fifty years ago about 57 water purification plants were in service. In 1939, there were about 2,200 such among about 12,800 waterworks. Furthermore, over 4,000 supplies are disinfected, mostly by chlorination. During the year the first filtered water from Milwaukee's new water purification plant was delivered on May 4. The plant has a capacity of 275 M.g.d. and cost \$5,060,000. Construction of the water purification plant for the South District of Chicago is now under way. The plant is located on the lake shore just north

of 79th Street. It will have a capacity of 400,000,000 gallons daily, and will be located on an area of 150 acres back of a break-water. The cost with meters and appurtenances is estimated at \$12,000,000. It is one of three plants which will be constructed. It will take the place of the plant at Detroit as the largest in the world.

### IMPROVEMENTS AND REFINEMENTS

The design of water purification plants continues and the necessity for plants being "tailor-made" to fit the raw water is being increasingly recognized. New devices have been invented for washing the surface sand of rapid filters. Filter sand has been replaced by anthracite coal ("Anthra-filt") in some places, and porous plates are coming into use for under-drains.

At Bethlehem, Pa. a so-called "Morse" purification plant replaced the original filter built in 1889. The Morse plant first introduced at Burnt Mills, Md. is built of steel instead of masonry. Its units are circular in form. It has the advantage of low first cost.

Over-treatment with chlorine followed by de-chlorination is increasing in practice. It accelerates treatment and betters disinfection.

### WATER SOFTENING

Twenty years ago, about 2,000,000 people were served by municipal water softening plants. Now, four times as many are served, and the number of plants exceeds 400.

Because it costs from 100 to 300 times as much to soften water with soap as it does by treatment in softening plants, municipal water softening is gaining in practice as its benefits become more generally recognized. The city of Clarksburg, W. Va. has exemplified this trend by adding a water-softening plant to its present water purification plant. The softening plant has a capacity of 4 M.g.d. and makes use of the zeolite or base-exchange process.

According to Spaulding, a reduction of 10 p.p.m. in the hardness of a water supply is worth 62¢ per capita

## WATER SUPPLY

per annum. Therefore, if a water having a hardness of 200 p.p.m. be reduced to one of 100, the saving in a town having a population of 10,000 would amount to \$6,500 a year.

At St. Paul, Minn. experiments have shown that savings in soap will amount to six times the cost of reducing the hardness of the supplied water from 178 to 68 p.p.m., or to about that of the hardness of Lake Superior water, 52 p.p.m.

The softening plant on the Colorado Aqueduct will have a capacity of 100 M.g.d., and will be expansible to 400 M.g.d. Softening by the combined lime and zeolite processes will reduce the hardness to 125 p.p.m., at a cost of \$16 per 1,000,000 gallons. The hardness of the delivered water is considerably higher than would be tolerated in the east, where a hardness of even 60 p.p.m. or less may cause complaint.

### CORROSION

Increased attention is being given to the control of corrosion, not only to avoid the hazard of metal poisoning, *e.g.* by lead or copper, but also to minimize the economic loss due to corrosion of street and house piping systems and prevent the occurrence of water of bad appearance due to excesses of metals therein.

Each supply has its characteristic effect upon metals, and no universal rule for control may be given. With some waters, lead pipe may be used with impunity; with others, no useable metal unless protected by a lining such as cement or bitumen, is immune.

Increasing use is being made of copper tubing for services and house piping. The advantages are its flexibility, reasonable cost, and long life.

In some of the towns supplied with ground water through lead services, poisoning has occurred where the copper house piping has been connected with a lead service, thereby forming an electric couple with the resulting "battery action" and solution of the lead.

One serious case in the Massachusetts courts (*Horton vs. North Attle-*

*boro*) finally resulted in a decision by the State Supreme Court which is in accord with English decisions (*Irwell Water Board*) which make the purveyor of water responsible for the quality of the water they deliver for use and would seem to make obligatory both a careful selection of metals for piping and the proper treatment of corrosive waters to prevent corrosion.

In connection with corrosion, considerable attention is being given to the destructive effects of electrolysis due in turn to stray electric current. The usual preventives are the use of asbestos-concrete ("Transite") pipe or non-conducting pipe joints. Another remedy is called "cathode protection" which, by proper application of a counter-electric-current, causes a "plating" rather than a solvent action on the metal surface. So far, this has been applied to tanks and boilers.

### STORAGE TANKS

The trend away from standpipes and towards tower tanks of large diameter is illustrated by the new tower tank at Batavia, N.Y. which has a diameter of 103 ft., a depth of 25 ft., and flow line 169 ft. above the ground. It has the advantage of storing 1,000,000 gals., all of which can be used with relatively small variations in pressure.

Other tower tanks holding 2,000,000 gallons have been built at Buffalo, N.Y. and Winston-Salem, N.C., and a 1,000,000-gallon tank with its flow line 174 ft. above the ground has also been built.

To meet aesthetic standards and provide large storage, Brookline, Mass. has built a spheroidal tank ("tomato-shaped"), storing 1,666,000,000 gallons, and standing only 47 ft. above the hilltop on which it is placed. These types illustrate the present-day trend in design for flat hilly locations.

### DISTRIBUTION HAZARDS

**Precautions.**—More and more attention is being given to the hazards of distributing water. More care is being taken to have water pipes un-

## VIII. PUBLIC RESOURCES AND UTILITIES

der constant pressure, to maintain hygienic conditions during pipe-laying and other construction, to operate works with care, and to avoid all chance of cross-connections between house piping and plumbing or other sources of contamination in buildings.

**Typhoid Fever.**—Deaths from typhoid fever, a disease frequently waterborne, continue to decrease. In 1938, 29 cities had no deaths from this disease, and 48 cities had less than two deaths per 100,000 population. The highest typhoid fever deaths occur in southern cities and in rural areas. Twenty-five years ago, the

average rate in 78 cities was 13.43 per 100,000; in 1938, it was 0.67.

**Gastro-enteritis.**—The peculiar water-borne intestinal disturbance known as "Gastro-enteritis" has been studied intensively, but as yet its origin and methods for its avoidance are not well understood.

**Drought.**—Abnormally low rainfall during the late summer and fall caused the exhaustion of many sources of supply. With the failure of supplies there has come a better realization of the necessity for adequate preparation to meet these abnormal conditions.

## STREET AND HIGHWAY TRAFFIC

BY ERNEST P. GOODRICH

CONSULTING ENGINEER, NEW YORK

### GENERAL

The year 1939 experienced a slight decrease in automobile registration. In spite of this fact gasoline consumption and the total mileage travelled by all cars increased over the previous year. Fortunately the accident incidence decreased. It is estimated that the total registration for the year approximated 29,425,000 vehicles, while gasoline consumption increased 4.8 per cent from 19,600,000,000 to 20,600,000,000 gallons, and the end of the year showed a two per cent decrease in fatal accidents, but with the discouraging total of approximately 31,500 deaths. Of the nearly 30,000,000 motor vehicles registered in the United States more than 350,000 were reported to be owned and operated by government agencies—Federal, state, county and municipal.

### THE ACCIDENT SITUATION

**Awards.**—Certificates were issued as usual by the National Safety Council to cities of different sizes for major reductions in their traffic accident incidence during the previous year. Cleveland and Milwaukee were tied in the group of 500,000 population. Providence won in the next smaller group with Saginaw, Mich., Waukegan, Ill., and Mason City, Ia. win-

ners in successive groups of smaller numbers.

**Motion Pictures.**—A motion picture designed to show police departments how to help prevent traffic accidents was produced by the Safety Division of the International Association of Chiefs of Police in collaboration with the Northwestern University Traffic Safety Institute. Evanston and Detroit, which were the first two cities to put the system into practice, reported a reduction in fatal accidents of about 50 per cent during the first year.

**Bicycle Regulations.**—The mixing of 7,000,000 bicycles with 29,000,000 automobiles resulted in the deaths of some 800 bicycle riders per year. After careful study, a set of ten rules for safe bicycle riding was included in the study of the entire subject at one of the traffic schools. Strict laws applicable to bicycle riders were enacted by at least four cities during the year—Wilmette, Ill., Cleveland, Buffalo and Tacoma. These regulations require registration and specify the use of brakes, headlights and tail lights. Riders must also pass an examination on traffic rules and demonstrate their ability to ride. Somewhat less stringent regulations were passed by at least 14 additional cities.



## STREET AND HIGHWAY TRAFFIC

**Drunkenness.**—The State of Washington revoked the drivers' licenses of 3,200 motorists for drunken driving in the previous two years. Thirty-six other states make suspension or revocation of drivers' licenses mandatory on the first conviction of drunkenness while driving. The Chicago Park District issued a manual outlining 15 tests of drunkenness to be applied to drunken motorists. They include both questions, tests of eye reflexes, ability to pick up pennies, touch the end of the nose when eyes are closed, and observation of face, hair, clothing, gait, speech, breath, reading and others. Indiana was the first state to provide by law that its courts may recognize scientific tests for intoxication to be used as evidence in cases involving drunken and reckless driving.

**Pedestrian Problem.**—Pittsburgh's Better Traffic Committee developed a novel idea in the effort to educate the pedestrian to traffic safety. Each month an interesting and arresting idea was presented pictorially. These cards were distributed to taxi cab companies, to building superintendents for posting in elevators, on bulletin boards and in offices, and to others for places where pedestrians are constantly in traffic.

The pedestrian problem was attacked from many directions,—adequate markings to indicate crosswalk locations, special pedestrian signals, the installation of safety police and enforcement of Pennsylvania's traffic signal indications were strongly advocated. The American Automobile Association issued a very readable and amply illustrated brochure on "Pedestrian Protection." The subject was discussed at the annual convention of the Institute of Traffic Engineers and in many magazine articles and other publications.

**Vehicle Inspection.**—The American Automobile Association conducted a debate on the subject of motor vehicle inspection. Cost, lost time, and the troubles involved in the inspection were the deterring factors. On the other hand greater safety with an actual reduction in pedestrian accidents by eight per cent were

contended to be more than overbalancing advantages.

### THE PARKING PROBLEM

**Studies.**—The increased use of automobiles served to bring home the parking problem more acutely than ever before and it was studied by many agencies, groups and individuals. It was one of the major subjects discussed by the Institute of Traffic Engineers at their meetings.

**Shoppers.**—In Chicago, from 10 to 50 per cent of shoppers use automobiles, the higher figure being reached by the most important outlying department stores which draw customers from extensive surrounding territories. In that city one of the greatest impediments to free flowing traffic is stated to be angle parking. Many merchants erroneously believe that more and faster traffic would reduce their patronage, at the same time creating more accidents. Observation showed that angle parking was responsible for 58 accidents in one year on only two blocks. With 40 per cent of the angle parking removed, speeds increased, traffic increased and accidents fell 63 per cent. A drive was started to eliminate all angle parking in the city. The clearing out by the police of all illegal parking resulted in increased street car speeds, while free-wheel vehicles experienced an even greater improvement. Cruising vehicles were found to create a large part of the street congestion, from the habit of driving about until they chanced to discover a vacant space near the store they wished to patronize. Such motorists would not park in the next block and walk the short extra distance. Motorists were observed to have driven as much as 5.8 miles while cruising to find a desired parking space, while a well paved, lighted and guarded free parking lot less than 600 feet away had vacant space during the whole period. The seven per cent of vehicles which cruised through an area under observation were shown to have created as much accident hazard and congestion as several times as many normal vehicles. Drivers did not watch traffic but were looking for a parking space.



## VIII. PUBLIC RESOURCES AND UTILITIES

The conclusion was reached that the most practical deterrent to cruising would seem to be more active turnover in use of parking space. This is found to be created by parking meters. In one district from 40 to 58 per cent of all curb parking space was occupied by private vehicles belonging to merchants, employees and visiting salesmen.

**Remedial Questionnaires.**—The American Automobile Association sent questionnaires to six groups of persons including traffic engineers, merchants, real estate boards, parking lot operators and others in an endeavor to ascertain the efforts of each to help the existing disorderly parking evil. They found 34 municipalities which provided 42 lots accommodating a total of 3,660 spaces and three additional buildings with a total of 546 spaces. Merchants provided 70 lots for 6,822 spaces and 12 buildings for 2,360 spaces. Private operators provided 1,330 lots with a total of 115,000 spaces and 461 buildings with 78,000 spaces. The grand total of 206,386 was considered quite liberal off-street facilities. The average fees for parking in lots were 20 cents per hour, 26 cents for two hours, 41 cents per business day and \$1.21 per week. In garages the fees were from 25 to 100 per cent higher. A study of the economics indicated that municipalities could take over all parking facilities and just pay expenses at the rate of 20 cents per day for overhead and 16 cents operating cost. To do so, however, would be an invasion of private business which would probably not be tolerated.

**Value of Parking Privilege.**—Another study of off-street parking areas developed the principal that the parking privilege is worth ten cents in some locations and 15 cents or 25 cents in other locations independent of the length of parking time, but depending upon the value of the parking privilege to the parker. Several statements showed that the charges of garages at some parking lots were higher than the mass of motorists would pay.

**Local parking surveys** were advocated and to a lesser extent carried

out in a considerable number of cities, showing the wide extent and great importance of the parking problem. It was demonstrated that short-time parking can be regulated by the use of parking meters. Much congestion was found to be caused by all-day parking of vehicles owned and operated by merchants and their employees who actually prevented patrons from reaching their stores.

**Municipal Parking Areas.**—Michigan's legislature enacted legislation authorizing cities to furnish parking space. At least 35 cities in the country own municipal parking lots. Only two or three charge any fee. New Brunswick, N.J., established two free municipal parking areas near the center of the business district. During the year several other cities undertook to provide free off-street parking space, and it was generally stated by city officials and traffic experts that such action is logical because it is cheaper for the municipality to provide off-street parking than to widen streets or permit curb parking in many instances. General advocacy was expressed for the use, for this purpose, of vacant lots, tax delinquent properties, lots occupied by obsolescent buildings and interior vacant portions of blocks.

**Parking Meters.**—Approximately 100 cities used parking meters as a partial means of controlling traffic congestion in their business districts, according to a report made by the International City Managers' Association. Parking meters have been in court on the matter of legality at least eight times. Alabama courts were the only ones to declare them illegal—in two cases. The largest city in which meters have been installed is reported to be Kansas City, Mo. In Toledo the parking meters produced an average income of about 35 cents per meter per day. Paterson, N.J. reports that the meters relieve double parking and speed up traffic.

New Haven, Conn., installed 397 meters in the central business district, the rate of charge for which was set at one cent for 15 minutes and two cents for 30 minutes. It was reported that they were more than

## STREET AND HIGHWAY TRAFFIC

paying their cost, with an income of slightly over 20 cents per meter per day, and that they cleared up congestion, removed the all-day parker, eliminated double parking, speeded traffic flow and permitted the discontinuance of a special traffic squad formerly maintained during rush hours.

Glens Falls installed 263 parking meters, and Pontiac, Mich., installed 385. Cleveland bought 3,000 parking meters, advertised as the largest order for parking meters ever let. Such meters are credited with having cut the accident rate in Atlantic City by 40 per cent. They were reported to be much liked by the merchants of Portland, Ore. Motorists overwhelmingly favored Pittsburgh's meters according to reports secured from merchants.

Chain store managers reported upon the charges made for parking meters; the reaction of the public at large to them; and the personal opinions of individual chain store managers. In the latter group 69 were favorable and 11 were unfavorable.

### INCREASING USE OF TRAFFIC SIGNALS

The chiefs of police of 10 cities of from 10,000 to 15,000 population furnished figures indicating that their unit investment in traffic-signal equipment amounts to 60 cents per capita and \$1,270 per intersection.

Milwaukee reported among other statistics indicative of her safety measures that she had an automatic traffic signal for each 987 persons, an arterial stop sign for each 22, a reflector signal for each 680, and a mile of pavement markings for each 6,550 persons. Milwaukee solved an intricate traffic problem caused by the diagonal crossing of an electric interurban railway track through the center of a busy intersection by using a traffic-actuated dispatcher with vehicle detectors on all approaches.

New York City extended its traffic signal equipment through an expenditure of about \$200,000 so that by the end of the year the city had approximately 8,600 intersections equipped with 12,000 signals.

Milton, Mass. with its five years experience with what is probably the most flexible and safety-providing traffic signal in the country, has proved its value. Right and left arrow lenses, special pedestrian periods, special pedestrian push button signals, provision for clearing the road for fire apparatus and for railroad trains, and for shifting to a flashing type of signal at night are all included, together with means for varying the cycle lengths.

Accidents in Altoona, Pa. at 25 intersections were reduced from 74 to 41 as a consequence of the installation of traffic signals.

Observations led to the conclusion that traffic-signal visibility is appreciably matured by accumulations on the signal equipment. Photo-electric measurements indicated an improvement of from 16 to 40 per cent in visibility varying somewhat with location and less color.

At the Annual Automobile Show in New York, visitors voted 15 to 1 that the pedestrians should obey traffic signals. During the same period, a New York court decided that a pedestrian caught in mid-stream when the traffic lights change has a right to complete the crossing without motor interference. The New York City police commissioner said that "traffic signals are put there for the safety of the pedestrian. Obviously he must do his own thinking and exercise reasonable caution."

Reports rendered to the International Association of Chiefs of Police indicate better than 85 per cent pedestrian observance of traffic signals with a reduction of pedestrian accidents to 173 per 100,000 population to be compared with 298 per 100,000 where poor observance exists. Washington, Salt Lake City, Peoria, Pittsburgh, Philadelphia, New York, Portland, Seattle, Los Angeles, San Francisco and Cincinnati were cited as active in endeavors to protect the pedestrian against himself.

### OTHER IMPROVEMENTS TO AID TRAFFIC

**Multi-Lane Highways.**—Increasing construction of multi-lane super high-

## VIII. PUBLIC RESOURCES AND UTILITIES

ways of "protected" highway type were advocated. These partake more of the character of parkways than of the super-highways formerly in vogue, because lateral access is not possible except at fairly distantly separated points.

**Los Angeles Time Survey.**—A special survey of the Los Angeles Metropolitan Area which includes 43 incorporated cities showed that the effect of the increasing congestion on automobile transportation, from the standpoint of time, was slightly but steadily pushing the various communities further and further apart. Decentralization of the concentrated business district was also apparent. This was believed due primarily to the congestion of traffic with its many attendant annoyances, hazards and other economic losses. The need for greater street space for moving traffic seemed to be demonstrated. In densely built up business districts it was planned to acquire rights of way in or near the middle of the blocks. Construction was in progress on a roadway extending between Los Angeles and Pasadena utilizing a dry river bed, made possible by flood control accomplishments.

Los Angeles also adopted a long-term program to provide another artery to the ocean over what has been newly named Olympic Boulevard. Two right angle turns were eliminated and the street widened to 100 feet. It is planned to extend this widening throughout the full length of the Boulevard.

**San Francisco.**—A survey of the San Francisco central business district revealed the fact that 91,000 persons entered and left it daily by means of street cars and buses, while 251,000 were carried by 168,806 automobiles. The transit passengers occupied only 7,410 units.

**Washington, D.C.**—A special study was made in Washington, D.C. of the efficiency of one-way streets. The statistics seemed to indicate that one-way operation has had little effect on the total traffic carried during rush hours. The grouping of one-way streets, however, resulted in an increase in traffic averaging 13 per cent.

Rush hour increases ranged from 40 to 50 per cent. One-way operation had no apparent effect upon the nature or number of accidents.

**Indiana Standards.**—In 1938 the Indian legislature turned over to the State Highway Commission jurisdiction over state routes through all cities and towns of 3,500 population or more, except Indianapolis. Pursuant to that action, standards have been adopted for signs and markings, for the installation of traffic signals and for the imposition of no-parking restrictions. Speed zones were also installed. Many of the 79 cities and towns voluntarily followed the state standards so that great improvement was secured in their uniformity. A survey of the traffic signal situation showed that one out of every four installations was unwarranted, while strict adherence to the manual of uniform traffic control devices would warrant installations at not more than one out of five intersections. During the year nearly 50 signals were removed, with 13 new ones installed. Up to the middle of the year, out of 800 stretches where speed zoning would seem to be wise, approximately 300 had been surveyed and zoned, and the balance were being zoned as rapidly as possible. Detailed specifications for the 20-, 30- and 40-mile zones as to character of frontage and length of zone were formulated.

**Traffic Sign Design.**—A study of the design of traffic signs showed that they often fail unless they are kept fitted to average driving speeds and to driver psychology. Small type, even though legible, tends to go unread, whereas large, clear type has the opposite effect. Well proportioned and spaced lettering is normally readable at 50 feet for each inch in height. One signal corporation recommends 18 inch letters to be read at a distance of 900 feet or ten seconds away at 60 miles per hour. It is claimed that these larger signs are indicated both for highways and through city streets. Tests conducted by the Michigan Highway Survey showed that the replacement of plain weather-beaten 24-inch STOP signs with new 24-inch reflectorized



## STREET AND HIGHWAY TRAFFIC

signs had no effect on the proportion of violations, which were at the rate of eight per cent by day and 17 per cent at night. However, when 36-inch reflectorized signs were installed violations almost immediately dropped 50 per cent by day and 75 per cent at night, and a month later the daily violations had dropped another 20 per cent and the night violations another two per cent.

**Traffic Recorders.**—The Bureau of Public Roads developed a graphic recorder of highway traffic, an analysis of the results of the operation of which indicated a number of interesting facts. It was found that vehicles following each other at the same speed tend to maintain a spacing of about 1½ seconds, regardless of such speed. At a volume of 1,100 vehicles per hour in each direction on a two-lane highway there is practically no opportunity to pass by overtaking vehicles, even if sight is unlimited. Slow vehicles are often a controlling element in the traffic stream and to an extent out of all proportion to their numbers, heavily loaded trucks on hills being the most notorious offenders. A "directional no-passing center line" was given careful study. It is intended to keep a vehicle on its own side of the road only as long as its sight distance is dangerously limited.

**Street Design.**—Numerous improvements in street design were installed in many cities and along many highways to increase the safety both of the pedestrian and the driver. These included such things as mid-roadway islands both short and continuous, by-pass islands designed to allow right turns short of an intersection, improved illumination of all such islands, better illumination of signs and many other devices.

**Surface Markings.**—Defining traffic lanes by marking strips on the surface of the pavement was found to be one of the greatest contributions for motoring safety and its extension, and this practice grew considerably. A surprising increase took place in the number of new commercial devices designed to improve traffic regulation and safety. These included

such things as better machines for painting the strips designed to canalize traffic, individual markers to be placed on the surface of the pavement with a similar object in view; fibrous materials with minute glass spheres baked into a binder which can be cemented to the pavement surface; the "traffiscope" designed for erection at the top of a hill to enable approaching motorists in each direction to see objects on the other side of the hill; more efficient safety lighting, with the use of sodium and other special types; improved parking meters, both automatic and manual; testing stations arranged to test headlights, wheel alignment, wheel balance, brake efficiency; and many others.

### THE WORLD'S FAIRS IN TRAFFIC PROBLEMS

The two World's Fairs which were held during the year at New York and San Francisco created many traffic problems which were studied in detail. At the New York Fair care was taken to separate pedestrians and vehicles and to provide tractor trains, electric and man-power wheel chairs and other devices to enable the pedestrian to cover the great distances within the grounds.

Probably the most popular exhibit at the New York World's Fair was the "Magic City of Progress" which was designed to illustrate, by means of a gigantic "futurama," traffic conditions and model devices for handling the traffic of the year 1960. One-direction highways containing seven lanes to accommodate speeds of 50, 75 and 100 miles an hour were shown. Ramped loops over which cars could make right and left turns at 50 miles per hour were included. The highway surface was automatically lighted by continuous tubing in the highway safety curbing, as well as many other spectacular ideas.

### TRAILING

According to a bulletin issued by the American Petroleum Institute "trailing" has become a unique branch of the tourist business because of its rapid growth during the depres-



## VIII. PUBLIC RESOURCES AND UTILITIES

sion years. The trailers on the roads were estimated to house over 750,000 persons. Many cities and some states enacted special ordinances with reference to them. The expenditures made by these tourists were estimated in the millions. Some ordinances are exceedingly stringent, especially as to the sanitary requirements of the trailer camps. Outstanding examples of such camps are the one at Tampa, Fla., and "Trailer Town" built for visitors to the New York World's Fair.

### PERIODICAL PUBLICATIONS

---

#### *Bus Transportation*

330 West 42nd. Street, New York City.

#### *Economic Geology*

University of Illinois, Urbana, Ill.

#### *Electrical Communication*

67 Broad Street, New York City.

#### *Electrical World*

330 West 42nd. Street, New York City.

#### *Gas Age-Record*

9 East 38th. Street, New York City.

#### *Journal of the American Water Works Association*

29 West 39th. Street, New York City.

#### *Journal of Geology*

5750 Ellis Ave., Chicago.

#### *National Engineer*

5447 Wayne Ave., Chicago.

#### *Public Service Magazine*

35 East Wacker Drive, Chicago.

#### *Public Utilities Fortnightly*

Munsey Building, Washington, D.C.

#### *Public Works*

310 East 45th Street, New York City.

#### *Sewage Works Journal*

654 Madison Ave., New York City.

#### *Transit Journal*

330 West 42nd. Street, New York City.

#### *Water Works and Sewerage*

155 East 44th. Street, New York City.

### COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

---

AMERICAN PLANNING AND CIVIL ASSOCIATION, 901-3 Union Trust Bldg., Washington, D.C.

AMERICAN PUBLIC UTILITIES BUREAU, 280 Broadway, New York City.

AMERICAN TRANSIT ASSOCIATION, 292 Madison Ave., New York City.

AMERICAN WATER WORKS ASSN., 22 E. 40th St., New York City.

EDISON ELECTRIC INSTITUTE, 420 Lexington Ave., New York City.

INTERNATIONAL ASSN. OF FIRE CHIEFS, Police Headquarters, Philadelphia.

NATIONAL ELECTRIC LIGHT ASSN., 420 Lexington Ave., New York City.

NATIONAL PARKS ASSN., 1512 H St., N.W., Washington, D.C.

PARK ASSN. OF NEW YORK CITY, INC., 295 Madison Ave., New York City.

PUBLIC SERVICE COMMISSION, STATE Division, 80 Centre St., New York City.

## DIVISION IX

### DEFENSE AND ARMAMENT

#### ARMY OF THE UNITED STATES

BY ROBERT S. THOMAS

CHIEF CLERK, HISTORICAL SECTION, ARMY WAR COLLEGE

---

##### GENERAL OBJECTIVES

When General Malin Craig completed his tour of duty as Chief of Staff on June 30, 1939, he made this statement in his final report: "During the last three years a gradual shift in objectives has been evolving, culminating in the past year in a complete re-appraisal and a resulting definite determination to place the military establishment on a sound operating basis as a dependable instrument of national security." Events in the Old World, subsequent to General Craig's statement, have served materially to strengthen our national opinions along the same lines, so much so that there is now a popular readiness and eagerness to agree to the spending of huge sums for national defense.

Fortunately, the United States is so situated geographically and so endowed with natural, human and financial resources that it can afford to adopt the economy of "a position in readiness." The country has no immediate warlike neighbors and crossing any of the state boundaries does not involve a complete transition in thought, language, and culture as it does in so many instances among the many small European nations and principalities. Of the military system of this country it is only required that it be capable of affording immediate initial protection, of providing for rapid expansion, and of completely equipping and maintaining troops raised on Mobilization day

and succeeding days. Military aggression for selfish ends has no place in our national creed.

##### ARMY DEVELOPMENT

From the time of the return of the American Expeditionary Force from France until 1933, the strength and relative efficiency of the Army progressively declined. Various factors contributed to this condition, not the least of which was insufficient financial appropriations resulting in poor housing, insufficient provision for assembling and maneuvering large units, and discouraging the utmost in progressive experimentation to develop advanced items of armament and equipment.

Beginning in 1935, one army field maneuver was adopted as part of the Army's annual training program. At the same time the War Department began a series of studies and experiments which have resulted in a complete change in divisional organization, with a view to increased mobility and fire power. Provision was also made for the rearmament and reequipment of the Army. An extensive program of mechanization and motorization was undertaken. Early in 1939 the international situation served to accelerate preparations for national defense. The President in January, 1939, sent a special message to Congress requesting increased appropriations for national defense. Congress promptly granted his request.

## IX. DEFENSE AND ARMAMENT

After the outbreak of hostilities in Europe, the President issued a proclamation declaring a state of limited emergency under which he authorized a material increase in the numerical strength of the Regular Army and National Guard. In the meantime, the War Department speeded its program of reorganization and rearmament. Five Regular divisions were revitalized. They were built on the new "stream-lined" models. The divisions so marked for assembly were the 1st, 2d, 3d, 5th and 6th, numbers which had all seen service in the World War. Under the new form of organization, in each division there are provided three infantry regiments, two field artillery regiments, (no brigades), with battalions instead of regiments in the Engineer, Medical and Quartermaster troops. The peace strength of each division was set at 8,517 rather than the total of 13,500 provided in the 1920 organization. Secretary Woodring decreed that, as far as possible, the divisions would move south where year-round training could be had. Coincident with this divisional activity, plans were put into motion to form Corps units to be trained at Fort Bragg, N.C., Fort Knox, Ky., and Camp Ord, Calif. It is expected that early in 1940, all units can be concentrated for the most extensive field maneuvers ever attempted in this country.

This plan puts into effect the first step in the creation of the Initial Protective Force mentioned in this review in THE AMERICAN YEAR BOOK for 1938. The function of this force would be to strike first and hard at any enemy invading our shores.

With such progressive plans on foot, the Army was fortunate to have as General Craig's successor an officer whose World War service and his subsequent activities fit him to instant comprehension of the demands of his post. Of this new Chief of Staff, General George C. Marshall, it was written by General Hugh S. Johnson that "... I do know that he is ... as coolly efficient as a surgeon's scalpel."

### ORGANIZATION

The War Department, functioning as the managing agency of the Army, is presided over by the Secretary of War (Harry H. Woodring) who has two assistants—Assistant Secretary of War (Louis Johnson) and Chief of Staff (General George C. Marshall). Under this combined direction, the General Staff and the various arms and branches of the service operate. The advice and best judgment of the Chiefs of the arms and services reach the Secretary of War through the Chief of Staff and the Deputy Chief of Staff (Brigadier General Lorenzo D. Gasser, Acting at present).

Flexibility in command and control is assured by the practice of dividing the United States and its possessions into Corps Areas and Departments, each in turn commanded by a general officer. First Corps Area (Major General James A. Woodruff) headquarters, Boston; Second Corps Area (Lieutenant General Hugh A. Drum) headquarters, Governors Island, New York; Third Corps Area (Major General James K. Parsons) headquarters, Baltimore; Fourth Corps Area (Lieutenant General Stanley D. Embick) headquarters, Atlanta; Fifth Corps Area (Major General David L. Stone) headquarters, Columbus, O.; Sixth Corps Area (Lieutenant General Stanley H. Ford) headquarters, Chicago; Seventh Corps Area (Major General Percy P. Bishop) headquarters, Omaha; Eighth Corps Area (Major General Herbert J. Brees) headquarters, San Antonio, Tex.; Ninth Corps Area (Lieutenant General John L. DeWitt) headquarters, San Francisco; Hawaiian Department (Major General Charles D. Herron) headquarters, Fort Shafter, T.H.; Philippine Department (Major General Walter S. Grant) headquarters, Manila; Panama Canal Department (Major General Daniel Van Voorhis) headquarters, Quarry Heights, Canal Zone and, within this Department, the Atlantic Sector (Brigadier General Joseph M. Cummings) and the Pacific Sector (Major General Ben Lear); Puerto Rican Department (Brigadier General Edmund L.

## ARMY OF THE UNITED STATES

Daley) headquarters, San Juan, Puerto Rico. These areas and departments are further subdivided into tactical divisions and brigades.

Under the Four Army Plan, providing for the largest groupings of the armed forces, there are the following establishments of Army Headquarters: First Army (Lieutenant General Hugh A. Drum) Governors Island, New York; Second (Lieutenant General Stanley H. Ford) Chicago; Third (Lieutenant General Stanley D. Embick) Atlanta; and Fourth (Lieutenant General John L. DeWitt) San Francisco.

### ARMY STRENGTH

**Regular Army.**—Public Act No. 18 (76th Congress) increased the authorized peace-time commissioned strength of the Regular Army from 14,659 to 16,719. This strength is to be attained during the period of ten years begun July 1, 1939 in approxi-

mate equal annual increments. The immediate appointment of 300 second lieutenants in the Air Corps was authorized from among reserve officers and flying cadets who had qualified for appointment in the Regular Army. On June 30, 1939 the actual commissioned strength (less Philippine Scouts and retired officers on active duty) was 12,993, an increase of 521 over the preceding year. Enlisted strength, less Philippine Scouts, was 167,712 on the same date, providing an increase of 3,912 over the preceding year. Public Act 18 likewise authorized an increase in the enlisted strength of the Air Corps from 21,500 to 45,000. The Philippine Scouts accounted for 39 commissioned officers and 6,367 enlisted men. Warrant Officers of the Regular Army totaled 775 as compared to the preceding year's 782. The Regular Army Reserve of enlisted men, reestablished by Public Act. No. 491

### STRENGTH OF THE REGULAR ARMY, BY CORPS AREAS

Corps Area, Department, or Country	July 1938			June 1939		
	Officers	W.O.	Enlisted Men	Officers	W.O.	Enlisted Men
First Corps Area.....	476	44	5,811	455	48	6,300
Second Corps Area <sup>1</sup> .....	1,288	91	16,607	1,331	87	16,698
Third Corps Area.....	1,943	100	15,038	1,982	105	14,279
Fourth Corps Area.....	1,278	57	16,118	1,237	58	16,419
Fifth Corps Area.....	667	51	7,622	697	50	7,336
Sixth Corps Area.....	576	49	7,102	596	48	7,873
Seventh Corps Area.....	862	48	9,754	835	44	9,789
Eighth Corps Area.....	1,862	88	27,883	1,748	92	29,115
Ninth Corps Area <sup>2</sup> .....	1,125	110	17,885	1,174	101	19,394
Total in continental United States.....	10,077	638	123,820	10,055	633	127,203
Hawaiian Department.....	767	60	20,462	854	54	20,567
Panama Canal Department <sup>3</sup> .....	423	37	13,929	423	36	12,992
Alaska.....	11	....	376	13	....	405
Puerto Rico.....	54	4	865	50	3	872
Philippine Department:						
Regular Army.....	545	44	4,102	540	49	3,925
Philippine Scouts <sup>4</sup> .....	42	....	6,355	39	....	6,367
Retired officers on active duty....	8	....	....	7	....	....
Miscellaneous <sup>5</sup> .....	688	....	1,970	1,058	....	1,748
Grand total.....	12,615	783	171,879	13,039	775	174,079

<sup>1</sup> Excludes Puerto Rico.

<sup>2</sup> Excludes Alaska.

<sup>3</sup> Includes officers on duty with Panama Civil Government.

<sup>4</sup> Includes officers of the Philippine Scouts attending schools or on leave in continental United States.

<sup>5</sup> Includes military attaches, personnel on leave and en route to and from overseas garrisons, on special detached duty, on duty with U. S. District Engineer Officers, Constructing Quartermasters.



## IX. DEFENSE AND ARMAMENT

(75th Congress), showed a strength of 19,301 on June 30, 1939.

**National Guard.**—Commissioned strength of the active National Guard on June 30, 1939 was 14,455; enlisted strength was 184,825; and there were 211 warrant officers for an aggregate of 199,491, an increase over the preceding year of 2,303.

**Organized Reserves.**—This component of the Army, on June 30, 1939, numbered 116,719 officers and 3,054 enlisted men, representing appreciable annual increases in both classifications.

### TRAINING

**Regular Army.**—During the year, all components of the Army progressed in theoretical and practical training. Carefully used funds provided for participation of nearly all mobile units of the Regular Army in field exercises of the combined arms in Corps Area, overseas Department, or Army exercises. Experimental testing of the streamlined Infantry Division was continued; Mechanized Cavalry maneuvers were held; and in August, maneuvers were planned and executed for large units in two main concentration areas. The first of these was the Southern concentration in the vicinity of Manassas, Va., and included Regular and National Guard units of the 3d Corps Area (Pennsylvania, Maryland and Virginia). Troops participating were those of the Regular Army 16th Brigade and the elements of the 28th and 29th National Guard Divisions, along with the smaller mobile units in the Corps Area. The Northern concentration was in the vicinity of Plattsburg, N.Y. and embraced the Regular Army and National Guard units of the 1st and 2d Corps Areas, including the 1st Division and 18th Brigade of the Regular Army and the 26th, 27th, 43d and 44th National Guard divisions, together with other small mobile units. The Air Corps provided a limited number of planes for the exercises in both concentrations. The Northern concentration employed about 45,000 troops, the Southern concentration approximately half that number.

Courses of instruction at the sev-

eral service schools have been shortened so that theoretical instruction will be completed in February, 1940, whereupon military students will go into the field and put their theoretical training to practical application, employing the divisions heretofore mentioned as concentrated in our southern states for the purpose.

**Organized Reserves.**—There was a marked increase registered in all phases of voluntary work, and appropriations permitted the training for 14-day periods of a greater number of Reserve officers than in any previous year. Greater practical training was also afforded several thousand Reserve officers through details with the Air Corps and other arms of the Regular Army under the provisions of the Thomason Act.

**National Guard.**—As set forth above, National Guard units participated with Regular Army units in field training. In addition there was a gratifying increase in training exercises within the states and some improvement was noted in the states' provision of adequate facilities for field training. There remains a need for improvement in proper training for antitank defense and in chemical warfare training for National Guard units.

### RECRUITING

The War Department announced that, beginning July 1, 1939, it would embark upon the largest peace-time recruiting campaign in the history of the Army. During the fiscal year 1940, requirements for the expansion program of the Army and for replacement of normal losses, called for a total of 141,544 enlistments. Original plans contemplated the procurement of that number of men in varying numbers per month throughout the fiscal year; however, later changes placed upon the Recruiting Service the gigantic task of speeding up procurement so as to complete the requirements for the expansion program and replacement of current losses by Dec. 31, 1939, and attain an Army strength of 227,000 men by that date.

Under The Adjutant General of the Army, the unprecedented peace-

## ARMY OF THE UNITED STATES

time recruiting program was directed and supervised by Major Harold N. Gilbert, Adjutant General's Department, U.S. Army. During the campaign all recognized publicity media were used, including advertisements in newspapers and magazines, radio, especially prepared motion picture films, billboards and posters. The regular U.S. Army recruiting service field force and installations consist of 44 main stations and district headquarters, and 417 substations, with 44 officers and 664 enlisted men, augmented by the recruiting facilities at garrisoned Army posts, and personnel from tactical organizations. In addition 18 large mobile recruiting stations, consisting of modern house-type trailers about 28 feet long, and stream-lined tow trucks, were authorized. The mobile recruiting stations which were designed by Major Gilbert provided a complete recruiting office, living accommodations for a crew of five, and were equipped with electric power plant, radio and public address systems.

During the highly successful campaign, several new all-time high records were established for U.S. Army peace-time recruiting for three-year enlistments; namely, highest total number of enlistment records received in the War Department in one day: October 9, 1939, 2,220; and highest number of three-year enlistments made in one month: October 1939, 19,800.

The physical qualifications for enlistment remained unchanged throughout the campaign; however, educational standards rose because of the large number of men required who had a high school education or its equivalent, or a journeyman's rating in a mechanical trade.

### FIELD ARTILLERY

The principal accomplishments of this arm of the service during 1939 were the increase in personnel which permitted the organization of the full complement of Division Artillery for five Regular Army Divisions and one complete Corps Artillery Brigade; the concentration of these units for training; the adoption of the 155 mm.

M-1 gun as a standard field artillery weapon and the replacement of shrapnel by high explosive time shell as a standard field artillery projectile. The Knox Trophy, presented annually to the Artillery units having the highest efficiency rating was awarded to Battery A, 2d Field Artillery Regiment, stationed at Fort Clayton in the Canal Zone.

### SIGNAL CORPS

Eighty-two stations were operated in the Army Administrative System of radio communication, handling 122,137,281 words of gross traffic. The Army Airways Communication System covering continental United States, Panama and Hawaii now operates 38 stations. Each station includes equipment for operation with aircraft and for point-to-point communication with adjacent stations to handle plane movement messages and weather information. Airdrome control transmitters are being installed at Army fields which are not immediately adjacent to fields already equipped by the Civil Aeronautics Authority. The Alaska Communication System comprises 22 stations, including the outlet station at Seattle, Wash. A direct circuit between Washington, D.C. and Seattle was maintained. The System handled in original sent traffic a total of 10,899,906 words (commercial) and 6,986,484 words (government). Eight new training films were prepared and released to the service and continued experimentation was conducted in handling pigeons for message work.

### CORPS OF ENGINEERS

In the field of general engineering, important progress was made in the design of fixed and floating bridges; in the improvement of electrical equipment and searchlights, including an extension to the metal mirror laboratory at Fort Belvoir, Va.; in devising obstacles to mechanized forces; in the improvement of aerial photographic mapping equipment, and in the methods of producing maps from aerial photographs, including the equipping of the 29th and 30th Engineer Battalions (Topographic) with

## IX. DEFENSE AND ARMAMENT

multiplex mapping equipment; in the redesign of a mobile water purification unit; in utilizing portable power tools such as air compressors, earth augers, saws; in developing camouflage nets for vehicles and individuals; in the completion of picture plans for training films on aerial photograph reading, anti-mechanized defense, technique of river crossings and floating bridge construction.

### CAVALRY

Conducted Cavalry leadership tests for small units at three cavalry stations, using for the first time each unit of the mechanized cavalry; at the National Rifle Matches took second place and won the Pershing trophy in the National Team match for highest individual score; conducted field maneuvers to test the place of mechanized cavalry in modern warfare. Late in the year a change in organization and strength of the horse Cavalry regiments was approved, calling for a nine-troop organization possessing increased fire power and flexibility of movement instead of the present six-troop regiment. It is planned to add a Special Weapons Troop equipped with 50-caliber machine guns and mortars; the number of heavy and light machine guns and scout cars will be increased. Supply service for this new regiment will be entirely motorized. A new corps Cavalry regiment, formed by reorganization of the 6th Cavalry Regiment, was provided. It affords a flexible combination of horse and mechanized cavalry which will give a corps commander the means of securing ground information of enemy forces in almost any situation.

### INFANTRY

Manufacture and delivery of the new Infantry Antitank Gun was begun during the year. It weighs, complete with carriage, 912 pounds and its projectile is capable of penetrating armor plate 1½" at 1,000 yards distance. Modern type mortars were delivered to the Infantry Battalions and a program was initiated to supply light mortars for the use of Rifle Companies. Tests were made of light

field wire, weighing 30 pounds per mile as against 131 pounds of the present standard type.

The Infantry Regiment had its first reorganization since 1917. This was necessary in order to obtain maximum results from the new semi-automatic rifle, the improved automatic rifle, the 60 mm. and the 81 mm. mortars which have been added to the regiment. As now constituted, an Infantry Regiment consists of a headquarters; a headquarters company containing an antitank platoon, intelligence platoon and a communications platoon; a service company; and three battalions. Each battalion consists of a headquarters and a headquarters detachment, three rifle companies, and a heavy weapons company. The rifle companies are armed with semi-automatic rifles, automatic rifles, light machine guns and the 60 mm. mortars. The heavy weapons company is armed with Caliber .30 and Caliber .50 machine guns and the 81 mm. mortar. The new form of infantry division organization into which this regiment fits is referred to in the service as "triangular" as distinguished from the "square" organization of the former type.

### COAST ARTILLERY

This arm was very definitely active as regards harbor defense and anti-aircraft batteries. In addition to the activation of two Antiaircraft Regiments, the 68th and 70th, in continental U.S. and the 72d and 73d Coast Artillery in the Panama Canal Department, the reorganization project resulted in the activation of nine additional 3" antiaircraft gun batteries, fifteen 37 mm. gun batteries, and ten additional harbor defense firing batteries. Considerable personnel and equipment of the Corps were shifted from continental United States to the newly formed Department of Puerto Rico and to the defenses of the Canal Zone. The United States Coast Artillery trophy, awarded annually for outstanding performance during the past target practice year, went to Battery "B" 63d Antiaircraft Regiment stationed at Fort MacArthur, Calif.



## ARMY OF THE UNITED STATES

### CHEMICAL WARFARE SERVICE

This service, a separate branch of the Army since June 4, 1920, conducts continuing research covering chemical warfare material and gas defense appliances. It maintains supervision of training of the Army in chemical warfare, and is responsible for procurement to the Army of smoke, chemical agents, and gas defense appliances.

### AIR CORPS

Some of the outstanding accomplishments of this Corps for the year were, (a) breaking of six international flying records, to wit, (1) greatest pay load, 14,135 Kg., carried to an altitude of 2,000 meters by a Boeing B-15 plane, (2) attainment of a speed of slightly over 186 miles per hour without a pay load by a Grumman OA-9 amphibian, (3) reaching a speed of over 259 miles per hour with a 5,000 kilogram pay load by a Boeing B-17 A plane, (4) course speed record with crew of better than 265 miles per hour, from Los Angeles to New York, by a Boeing B-17 B airplane, (5) a speed of 166 miles per hour carrying 2,000 kilogram pay load for 5,000 kilometers over a closed course, by a Boeing B-15 airplane, and (6) reaching an altitude of 33,400 feet with a pay load of 5,000 kilograms, by a Boeing B-17 A plane; (b) formation of a Production Engineering Section, Materiel Division, to meet the expansion program; (c) expansion of the Experimental Engineering Section, Materiel Division, throughout its five main laboratories; (d) movement of the Chief of the Materiel Division and staff to the Office, Chief of Air Corps; (e) preparation over a nine-months' period of contracts amounting to over \$197,300,000; and (f) furtherance of technical studies on the subject of vibration and flutter in airplanes; automatic flight and landing; development of auxiliary power plants for airplanes; application of stainless steel to the complete airplane structure; and development of a large four-bladed propeller.

Over \$302,000,000 has been appropriated to the Air Corps Expansion Program, \$50,000,000 of which was

made available before June 30. A very definite requirement of the new program is the securing of a total of 5,500 airplanes by July 1, 1941. This involves increased engineering facilities, expanded procurement, more inspection tasks, and a greatly increased number of test flights. Some comparative idea of the new task may be had when it is recalled that formerly the Air Corps had had delivered for testing approximately 200 new airplanes each year. To meet this impending expansion, the Air Corps accomplished during the year rapid and efficient changes in organization; secured more personnel, civilian and military; enlarged building space for working room; and improved existing equipment while contracting for completely new items.

Photographic projects received wide attention during the year. Tests were made to develop large-scale prints suitable for lithographic reproduction, thereby permitting their use as substitutes for maps. To aid in the detection of camouflage, color photographic equipment was studied, night photography was advanced by experimentation, and progress was made in high-altitude and long-distance large-scale photography, using infra red film, and a 60" telephoto lens mounted on a K-10 camera body.

Service truck development kept pace with the general progress of Air Corps expansion, including: a heavy-duty tractor with a drawbar pull of over 4,800 pounds; a 68-foot wrecking truck with a ten-ton capacity boom for salvaging purposes; a refueling unit consisting of two semi-trailer type tanks, 4,000 gallons capacity each; and a photographic truck and trailer for quick development in the field of films and processing of prints.

When the year opened, the GHQ Air Force consisted of 29 combat squadrons, most of which operated at approximately one-third war strength. There were about 1,000 officers, 8,000 men, and 500 airplanes. At the close of the year, this same force had embarked upon a program of expansion the immediate objectives of which almost double these figures. By June,



## IX. DEFENSE AND ARMAMENT

1941, the GHQ Air Force will comprise eight bombardment groups, six reconnaissance squadrons, and five pursuit groups. The number of air bases will be increased from the present six to 11. The GHQ Air Force, because of the demands of the expansion program, did not engage in the annual maneuvers; however, considerable training was accomplished by individual wings, groups and separate squadrons. The 2d Wing participated in the Joint Frontier Defense Exercise in April in the New England area. In November, seven B-17's of the 2d Bombardment Group made a successful good will flight to Rio de Janeiro on the occasion of the 50th anniversary of the founding of the Republic of Brazil. This perpetuated the flawless record of the famous Flying Fortress bombers. Early in the year, Major C. V. Haynes, flying a B-15, carried 3,000 pounds of vaccines and medical supplies needed by earthquake sufferers in the Chilean disaster. This flight, approximately 5,000 miles, was accomplished in the elapsed time of 49 hours and 18 minutes. This same officer flew the body of the famous Mexican aviator, Francesco Sarabia, from Washington to Mexico City in a non-stop flight.

### ORDNANCE DEPARTMENT

The 60-mm. mortar was standardized for use by Infantry and Cavalry. It supplements the powerful 81-mm. mortar, having the advantage of greater portability and less conspicuousness. Carried by the Cavalry on pack animals, it is used for attacking machine guns. By the Infantry it is used for both defense and offense, being a weapon of remarkable accuracy at normal ranges. It has a maximum range of 1,900 yards, firing a projectile weighing slightly over three pounds. The total weight of the mortar is approximately 50 pounds and it is easily carried by two men. The larger 81-mm. mortar was likewise standardized for issue to Infantry. It fires a 7-pound projectile to a range of about 3,200 yards, but the charges are arrayed in increments so the shell can be fired at elevations varying from 45 degrees to nearly 80 degrees

to cover short ranges. This mortar can be transported on pack mules, hand carts, or on trucks. The 37-mm. Antitank Gun, an entirely new weapon, was developed for use by the Infantry. It is mounted on a high-speed carriage for towing behind fast trucks, but it is also capable of being manhandled by the regular gun crew. It throws a projectile weighing nearly twice as much as that of the old 37-mm. gun at a speed of half a mile per second. This combination of heavier projectile with greater velocity gives remarkable armor-piercing ability. Equipped with a simple telescopic sight, one man can sight, control and fire the gun with a minimum of effort.

It proved remarkably accurate both on stationary and moving targets. A demonstration of its effectiveness against tanks was held at Aberdeen Proving Ground with results little short of spectacular. To meet the demand for a weapon to combat high speed, low-flying attack planes, the 37-mm. Antiaircraft Gun was developed, a weapon capable of going into action almost instantly and of delivering a heavy volume of fire: a rate of fire of 120 shots per minute has been attained, using the automatic principle of the machine gun combined with a highly effective system of fire control. This new weapon is mounted for all-around fire on a 4-wheel trailer, which can be towed by a truck at high speed. The U.S. Rifle, Caliber .30 M1, destined to succeed the old Springfield, has been further proved as an outstandingly efficient piece both in rapidity and accuracy of firing. The year 1939 called for the largest peace-time expenditure in the history of the Ordnance Department, involving \$52,000,000 which was spread among six manufacturing arsenals, whose employment was increased by 25 per cent, and who awarded approximately half this amount to private industry.

### QUARTERMASTER CORPS

The construction program during 1939 aggregated \$78,112,353 derived from Regular Army, P.W.A. and W.P.A. appropriations. The out-

## ARMY OF THE UNITED STATES

standing projects included the construction of a modern 600-bed hospital building at Fitzsimons Hospital, Denver, Colo.; construction of the Northwest Air Base at McCord Field, Wash.; Armament and Photographic Schools, Lowry Field, Colo.; Air Corps Technical School, Chanute Field, Ill.; and the expansion of Scott Field, Ill., Fort Knox, Ky., and other stations. On May 25th, the Quartermaster Corps announced the award of the largest single contract for motor vehicles made in a number of years; it was for 814 trucks, 1½-ton, cargo type and involved \$1,038,379.51. These trucks will be used by the National Guard.

### SURGEON GENERAL'S OFFICE

There was great improvement in the health of the army as measured by the sick and death rates. These were the lowest recorded in 120 years. Infectious diseases were much less frequent in occurrence and the incidence of more serious diseases of other kinds was lower than in recent years. Pneumonia, always one of the leading causes of death, occasioned fewer fatalities than ever before. Motor vehicle accidents were responsible for more deaths than any other cause, accounting for one-sixth of all deaths. Accidents to large planes also increased the work of the medical corps. A number of Army hospitals were overhauled. A new 400-bed hospital was opened at Ft. Sam Houston, Tex., and a new 600-bed building started at Fitzsimons General Hospital. Loss of the school building at the Medical Field Service School, Carlisle Barracks, imposed a serious handicap on instruction in field work. The building, erected by students of the Carlisle Indian School in the late 70's, developed such structural weakness that its condemnation finally became necessary to prevent a possible loss of lives. A new building has been authorized by Congress but funds for the purpose have not as yet been appropriated.

### THE FINANCE DEPARTMENT

This branch pays the War Department's personnel and bills, makes col-

lections due, and audits property accounts. The Chief of Finance, as War Department Budget Officer, is charged with preparing and submitting to the Bureau of the Budget all estimates of funds for the several branches and services required for inclusion in the annual War Department appropriations made by Congress. The total number of vouchers paid by the Finance Department in the past fiscal year was 2,439,035, representing an aggregate disbursement of \$808,007,176.51, which amount includes expenditures in connection with the Civilian Conservation Corps. There were 2,436,077 commercial invoices handled. Most of these indicated a discount period, through which means \$1,341,246.56 was earned. Since July 1, 1919, the Finance Department has thus saved the Government \$11,413,113.58. All items of property purchased for the military establishment are audited by the Finance Department. This includes all supplies and equipment procured and accounted for by the Regular Army, R.O.T.C., Organized Reserves, C.M.T.C., and the National Guard, as well as Ordnance equipment loaned to civilian rifle clubs. In addition, the Finance Department is charged with the audit of all accounts carrying the property belonging to the Civilian Conservation Corps under the custody of the War Department. In the hands of Army agencies at present, excluding the value of grounds and buildings, there is well over \$2,000,000,000 worth of property. The accountability of this property is divided among 3,800 accounts which are audited at least once annually.

On June 30, 1939, there were approximately 12,514 active soldier deposits and the amount deposited for the year totaled \$1,672,339.22; the amount of interest paid by the Government on these deposits was \$84,756.42. From June 30, 1873, to June 30, 1939, the sum of \$80,329,397.24 was deposited through this Army channel, earning \$4,063,113.09 in interest. The Act of June 28, 1937, authorized enrollees of the Civilian Conservation Corps to make deposits of pay in amounts specified by the Director

## IX. DEFENSE AND ARMAMENT

with the Chief of Finance, to be repaid in case of an emergency or upon completion of or release from enrollment, and to receive the balance of their pay in cash monthly. Deposits made by enrollees of the Civilian Conservation Corps, to and including June 30, 1939, amounted to \$6,086,426.25. On that date there were 18,715 active deposit accounts. The Finance Department has the duty of paying the Civilian Conservation Corps and the average number of members paid monthly since April 1933 was 316,796; the average number of allottees paid monthly since April 1933 was 294,098; the total amount paid allottees during the period April 1933 to June 30, 1939, was \$611,624,604.65. During this period 35,749,433 Civilian Conservation Corps checks were drawn. Total disbursements pertaining to the Civilian Conservation Corps for the fiscal year 1939 amounted to \$285,785,586.80.

### INSPECTOR GENERAL'S DEPARTMENT

The past year was important to this Department in that the field of inspection work was considerably expanded and that, for the first time since 1918, the commissioned personnel of the office was augmented. This additional personnel was made necessary for two reasons: (a) the large expansion authorized for the Army Air Corps and (b) the assignment to the Inspector General of more detailed inspection schedules covering National Guard organizations and activities. A total of 1,313 inspections were made, involving 347 posts, depots, arsenals and transports; 114 investigations of specific irregularities; and 852 involving disbursements.

### JUDGE ADVOCATE GENERAL'S DEPARTMENT

This Department is represented in the field by two or more judge advocates at each corps area headquarters and one or more at each division headquarters. With the establishment of the new Puerto Rican Department, it became necessary to establish a new departmental office and law library in San Juan. During the past

year 107 Reserve judge advocates were trained in the departmental offices. Much new national defense legislation was shaped and an outstanding piece of work was accomplished in the preparation of a complete set of contract forms for use in wartime, reducing the World War forms, over 400 in number, to seven.

In keeping with its function to operate the system of military justice and to act as legal adviser to the War Department and the entire military establishment, this Department recorded that there were 2,046 tried by general courts-martial, of whom 1,959 were convicted. Specifications tried by general courts-martial represented 102 different offenses.

Contracts and Bond Section prepared 260 written opinions and approved 14,708 bonds. Military Affairs Section wrote 751 opinions. Military Reservations Section wrote 531 opinions. Board of Review examined 480 records of general courts-martial, five records of courts of inquiry, and three reports in Class "B" affairs. Military Justice Section examined 1,546 records of general courts-martial. Claims and Litigation Section rendered 1,739 formal opinions, and disposed of judgments against the United States amounting to \$30,673.79 and those in favor to the amount of \$128,079.87. Patent Section, in collaboration with the Department of Justice, defended 34 patent suits (26 of which claimed an aggregate of \$106,000,000—the other eight no specified amount), and prosecuted 74 patent applications in the United States Patent Office.

### CORPS OF CHAPLAINS

Regular Army Chaplains conducted 22,656 services with a total attendance of 1,706,820; they also baptized 1,632, conducted 2,056 funerals, and performed 723 marriages. During the same time, civilian ministers conducted 3,940 services at Army posts with a total attendance of 219,274.

### ADJUTANT GENERAL'S DEPARTMENT

The World War Division received 1,238,844 additional documents for



## ARMY OF THE UNITED STATES

file, covering records of discontinued commands, reports of physical examinations, medical cards, and maps. There are now on hand for demobilized, discontinued, and inactive organizations approximately 98,925,939 documents, and in these 303,186 searches were made last year.

A total of 95,686 fingerprint records were received during the year—895 for officers and 94,791 for enlisted men. There is now established a fingerprint file totaling 5,821,967 prints, of which 389,717 were made prior to the World War, 3,961,467 during that war, and 1,470,783 since. Through fingerprint means of identification during the year, 249 individuals were identified as deserters, dishonorably discharged, or other delinquents. Verifications of identity were also made in 36,413 applications for certificates in lieu of lost or destroyed discharge certificates, and the fingerprints of 13,741 individuals submitted by various Federal and state agencies were checked with the result that 6,731 were identified as having had Army service.

Correspondence during the year aggregated 2,866,720 pieces of mail; the largest number received for a single month was 274,225, and the single-day maximum was 28,179. The Information Section received 67,904 telephone inquiries and 10,186 personal calls concerning 53,908 individuals and 24,182 of a varied nature. During the year, 24,751 programs were shown at War Department theaters with a total attendance of 10,287,405. New theaters were built at eight different posts and a remodeled building converted into a theater at another post; 11 theaters were equipped with modern sound-reproducing apparatus, and a total of 20 army theaters now have complete air-conditioning systems.

Library books were circulated through 156 permanent and 149 traveling libraries. Total circulation amounted to approximately 1,623,400 books in the permanent libraries and 266,980 in the traveling. Expenditures were \$11,144 for books, \$5,100 salaries for librarians, and \$545 for transportation of books.

### CIVILIAN CONSERVATION CORPS

A total of 3,018,184 men had been enrolled in this Corps from April, 1933 to the close of the fiscal year 1939 and, during that period, 2,784,745 separations occurred. This left 233,439 enrollees on June 30, 1939. On that date, 115 Regular Army, 4,617 Army Reserve, 131 Naval Reserve, and 32 Marine Corps Reserve Officers, with 60 Warrant Officers of the Coast Guard were on duty throughout the various camps. According to instructions issued by the President in June, no additional Reserve Officers will be called to duty with the Corps and, by Dec. 31, 1939, all on duty were ordered replaced by civilian employees. For the year, the sum of \$123,000 was available for welfare purposes and \$4,010,400 for educational purposes.

### PUERTO RICAN DEPARTMENT

By War Department General Orders No. 2, dated May 5, 1939, the Island of Puerto Rico, including all keys and islands adjacent thereto, and all islands belonging to the United States within the Virgin Island Group were constituted, as of July 1, 1939, a new territorial department to be known as the Puerto Rican Department with headquarters at San Juan.

### BUREAU OF INSULAR AFFAIRS

Under the provisions of the Reorganization Act of 1939 (Public No. 19, 76th Congress, 1st Session) the Bureau of Insular Affairs and its functions were transferred from the War Department to the Department of the Interior, effective July 1, 1939.

### PANAMA CANAL

The Panama Canal is an independent establishment in the government service, directly under the President; but as a matter of executive arrangement, the Secretary of War represents the President in the administration of Canal affairs. The present governor of the Canal Zone is Brigadier General Clarence S. Ridley.

The area of the Canal Zone, including land and water, but not includ-



## IX. DEFENSE AND ARMAMENT

ing the water area within the three-mile limit from the Atlantic and Pacific ends, is 552.8 square miles. The area of Gatun Lake, when its surface is at its normal elevation of 85 feet above sea level, is 163.4 square miles. The water area of the Zone, including Madden Lake, which was formed by the construction of Madden Dam in 1935, is 190.94 square miles. The Canal is 50.72 statute miles in length from deep water in the Caribbean Sea to deep water in the Pacific Ocean, while the shore-to-shore length is approximately 40½ miles. The channel ranges in width from 300 to 1,000 feet and the minimum depth is 41 feet. Average time of passage through the Canal is from seven to eight hours; record passage was made in four hours, ten minutes. Maximum traffic capacity is estimated at 48 ships of usual size per day, or about 17,000 a year.

The civil population of the Canal Zone for 1939 was 28,978 of whom 8,979 were Americans. There are also military and naval garrisons. Of this population, 2,787 Americans and 4,927 of other nationalities (chiefly Panamanian and tropical nations) were employed by the Panama Canal and Panama Railroad Company. The total force employed in June, 1939 was 3,511 on the "Gold Roll" and 11,246 on the "Silver Roll." The gold roll comprises the supervisory, technical, higher clerical, and highly skilled mechanical employees; these employees are, with a few exceptions, American citizens. The silver roll is formed principally of tropical natives, with a considerable number of Panamanians.

The gross capital investment at the beginning of the fiscal year 1939 was \$540,694,147.73 and the net capital investment, after deducting accrued depreciation, was \$508,346,822.50. The net revenues of the Canal during the fiscal year 1939 amounted to \$13,841,071.19 on Canal operations and \$681,272.48 on business operations, making a total which represents 2.86 per cent of the net capital investment at the beginning of the year.

During the year ended June 30,

1939, a total of 5,903 ocean-going vessels transited the Canal. This includes tolls-paying vessels of 300 net tons and over, Panama Canal measurement. Of these, 3,146 went from the Atlantic to the Pacific carrying 9,011,267 tons of cargo, and 2,757 went from the Pacific to the Atlantic carrying 18,855,360 tons of cargo. The preponderance of cargo tonnage moving from the Pacific to the Atlantic was due to the large movements of bulky raw materials, such as mineral oil products from California and Peru, lumber and wheat from the west coasts of the United States and Canada, iron ore and nitrate from Chile, and sugar from the Philippine Islands. Of the 5,903 ocean-going vessels, 1,788 were of United States registry; 1,502 British; 704 Norwegian; 361 German; 312 Netherlands; 261 Japanese; 200 Danish; 193 Panamanian; 157 Swedish; 117 Greek; 107 French; 59 Italian; 56 Yugo Slav; and the remaining 86 divided among eight other nationalities.

August 15th marked the 25th anniversary of the passage through the Panama Canal of the first ocean-going vessel. The steamer Ancon which made the trip in 1914, opening the Canal to the commerce of the World, made the 25th anniversary trip from Cristobal to Balboa with a Naval escort.

Legislation passed in the 76th Congress and approved Aug. 11, 1939, authorized the provision and construction of additional facilities in the Canal Zone for the purpose of more adequately providing for defense and to increase Canal capacity for future needs of inter-oceanic shipping. It was estimated that the cost of these improvements should not exceed \$277,000,000. An additional system of locks is provided, located at some distance from the existing locks at Gatun, Pedro Miguel, and Miraflores, to be linked to the present Canal Channel with by-pass channels.

The new treaty between the United States and the Republic of Panama, proclaimed on July 27, 1939, increases our annual payment to Panama; defines the classes of persons entitled to reside within the Canal Zone, as well

as those entitled to purchase goods imported into the Zone, produced or manufactured therein by the United States government; provides restrictions on the establishment of private business in the Zone; and provides for the establishment of Panamanian custom houses at Canal Zone ports.

During the year, military forces in the Canal Zone were considerably augmented. In December, the Secretary of War announced the advertisement of bids for new construction work in the Zone to amount to approximately \$35,000,000. This is made necessary by the expansion of the Air Corps, Harbor Defense and Antiaircraft installations.

The following are the courses presented in the Balboa Junior College during the school year and the number of graduates in each course: Science Engineering, 18; Commercial, 11; Liberal Arts, 12. These are two-year courses for which full credit is given by state colleges toward a degree. There were 225 graduates from the two high schools in 1938-1939.

## THE NATIONAL GUARD

Steady progress which has marked the development of this arm during the past several years continued during 1939. Along with numerical growth, there was improvement in arms and equipment and progress in training. A substantial number of semiautomatic rifles helped materially to better work on the target ranges. Under the Air Corps expansion program, existing 19 National Guard observation squadrons will be increased by 10 squadrons, two to be organized in the fiscal year 1940, the remainder in 1941. The greatest present training needs are in antitank defense, chemical warfare, and increased target range facilities.

Twenty-two enlisted men of the National Guard entered the United States Military Academy during the year; in the graduating class there were 21 former members of the Guard, six of whom stood in upper third of the class and one of these attained the graduating honor of "Distinguished Cadet."

## MILITARY EDUCATION \*

**U.S. Military Academy, West Point, N.Y.**—All construction authorized in the First Deficiency Act of 1936 was completed during the year, including an addition to the gymnasium, a barracks, an academic building, an armory, and 50 sets of officers' quarters. Additional funds authorized are now being spent to build ten more sets of officers' quarters. During the year, 776 acres of land were acquired in furtherance of the plan providing for the assurance of an adequate water supply. Through an exchange with the Palisades Interstate Park Commission, 718 acres were acquired and 5,300 additional acres are in process of acquisition through condemnation proceedings instituted by the Department of Justice.

From the June, 1939 class of cadets, 456 (including 2 from Ecuador) were graduated. A total of 1,715 candidates were designated to take the entrance examinations: of this number, 684 satisfactorily passed all requirements and, of this latter number, 11 declined appointments, while for 160 no vacancies existed.

**Cavalry School, Fort Riley, Kan.**—Officers: Regular, 24; Advanced Equitation, 15; National Guard and Reserve, 26. Enlisted Men: Non-commissioned Officers, 28; Noncommissioned Officers Advanced Equitation, 10; Horseshoers, 44; Saddlers, 32; National Guard Noncommissioned Officers, 10; National Guard Instructors Refresher, 4.

**Field Artillery School, Fort Sill, Okla.**—Officers: Regular, 61; Advanced Horsemanship, 4; Advanced Motors, 8; Advanced Communications, 8; Refresher, 12; National Guard and Reserve, 87. Enlisted Men: Motor Mechanics, 88; Horseshoers, 19; Saddlers, 20; Sergeant Instructors, 14; Communications, 66; Battery Mechanics, 16.

**Coast Artillery School, Fort Monroe, Va.**—Officers: Regular, 46 (including 3 officers from the United

\* In each case, the name of the course presented at the various schools will be followed by a figure representing the number of graduates from such course.

## IX. DEFENSE AND ARMAMENT

States Marine Corps and 1 from the Philippine Army); Advanced Technical, 6; Special for National Guard and Reserve, 27 (11 National Guard, 16 Reserve). Enlisted Men: Master Gunners, 10; Electrical, 35; Radio, 10; Electrical Refresher, 32; National Guard Sergeant Instructor, 8; National Guard Special Electrical, 7; Steroscopic Observers, 14; Special Clerical, 39.

**Engineer School, Fort Belvoir, Va.**—Officers: Regular, 42 (including 1 from United States Marine Corps and 2 from Philippine Army); National Guard and Reserve, 26. Enlisted Men: Surveying, Drafting and Aerial Photographic Mapping, 25; Map Reproduction and Photography, 13; Electrical Motors and Water Purification, 13; National Guard Non-commissioned Officers and Sergeant Instructors, 12.

**Signal School, Fort Monmouth, N.J.**—Officers: Regular, 24; National Guard (10) and Reserve (10)—20. Enlisted Men: Refresher for Sergeant Instructors, 4; National Guard Non-commissioned Officers, 4; Special Air Corps Teletype, 8; Special for Replacements, Oversea (109), Domestic (84)—193; Wire Communication, 91; Radio Communication, 63.

**Finance School, Holabird Quartermaster Depot, Baltimore, Md.**—This school is divided into two departments, (a) Department of Finance and Accounting, and (b) Department of Property Accounting and Property Auditing. There were 37 graduates from the resident course for the year, making a total since 1920 of 1,028. Home study courses requiring 62 hours of study graduated 153 students; special for officers newly detailed to finance work, 8. A special course in property accounting and auditing is conducted by mail.

**Infantry School, Fort Benning, Ga.**—Officers: Regular, 109; Tank, 32; Refresher, 25; Advanced Communications, 10; National Guard and Reserve, 181. Enlisted Men: Communications, 62; Motor Mechanics, 59; Horseshoers, 22; Refresher, 37.

**Army Medical School, Washington, D.C.**—Officers: Basic, 54; Ad-

vanced, 6. Enlisted Men: X-Ray Technicians, 26; Laboratory Technicians (extended course), 20.

**Army Dental School, Washington, D.C.**—Officers: Advanced, 6. Enlisted Men: Dental Technician (extended course), 16.

**Army Veterinary School, Washington, D.C.**—Officers: Basic, 5. Enlisted Men: Veterinary Technician, 10.

**Medical Field Service School, Carlisle Barracks, Penn.**—Officers: Basic, 64; Advanced, 8. Enlisted Men: Noncommissioned Officers, 75.

**School of Aviation Medicine, Randolph Field, Tex.**—Officers: Basic, 10. Enlisted Men: Surgeon's Assistant, 10.

**Ordnance School, Massachusetts Institute of Technology, Cambridge, Mass., and Watertown Arsenal, Mass.**—Course I, leading to the degree of Master of Science and covering theoretical training in sciences as applied to Ordnance Engineering, 10 graduates.

**Ordnance School, Aberdeen Proving Ground, Md. (with short courses at Picatinny Arsenal, N.J. and Frankford Arsenal, Pa.)**—Course II, graduated 11 officers from the Ordnance Department and 2 from the Philippine Army.

**Ordnance Field Service School, Raritan Arsenal, Metuchen, N.J.**—Noncommissioned Officers, 25; Enlisted Specialists, 104 (Marine Corps providing 10).

**Chemical Warfare School, Edgewood Arsenal, Md.**—Basic, 49; Line and Staff Officers, 25; Navy, 45; Field Officers, 41; Noncommissioned Officers, 54.

**Quartermaster School, Philadelphia, Penn.**—Officers, 40; Warrant Officers and Enlisted Men, 59.

**Quartermaster Motor Transport School, Camp Holabird, Baltimore, Md.**—Officers: Regular Army, 20; Philippine Army, 1; Chinese Army, 3. National Guard and Reserve Officers, 20. Enlisted Men, 135.

**Quartermaster Schools for Bakers and Cooks.**—Regular Army Officers, 170; Reserve Officers, 29; Enlisted Men, 2,400.



## ARMY OF THE UNITED STATES

**Air Corps Primary Flying School, Randolph Field, Tex.**—Regular Army Officers, 84; Flying Cadets, 429; National Guard Officers, 9; foreign students, 4; for a total of 526.

**Air Corps Advanced Flying School, Kelly Field, San Antonio, Tex.**—Regular Army Officers, 72; Flying Cadets, 397; National Guard Officers, 6; foreign students, 4; for a total of 479.

**Air Corps Tactical School, Maxwell Field, Ala.**—Air Corps Officers, 60; Officers from other branches of the Army, 12; Marine Corps Officers, 3; Naval Officers, 1; for a total of 76.

**Air Corps Engineering School, Wright Field, Dayton, O.**—Aero Engineering, 10.

**Air Corps Technical School, Chanute Field, Rantoul, Ill.**—For officers, the following—Airplane Maintenance Engineering, 21; Communications, 12. For Enlisted Men, the following—Airplane Mechanics, 307; Machinists, 30; Parachute Riggers, 36; Radio Repairers and Operators, 261; Welders-Sheet Metal Workers, 29; Welders, 22; Metal Workers, 21; Carburetor Specialists, 54; Electrical Specialists, 47; Instrument Specialists, 46; Propeller Specialists, 50; Link Trainer Specialists, 20; Armorers, 176; Photography, 94.

**Air Corps Technical School, Lowry Field, Denver, Col.**—For Officers, the following—Armament, 16; Photography, 19. For Enlisted Men, the following—Armorers, 100; Photography, 103; Bomb Sight Maintenance, 31; Air Corps Supply and Technical Clerks, 36.

**Air Corps Weather School, Patterson Field, O.**—Enlisted Weather Forecasts, 17.

**Command and General Staff School, Fort Leavenworth, Kan.**—From the regular course there were graduated 221 Regular Army Officers, 2 Marine Corps Officers, and 4 Foreign Officers: from special courses, 24 National Guard and 24 Reserve Corps Officers.

**The Army Industrial College, Washington, D.C.**—This school graduated the following numbers: Regular Army, 50; Navy, 11; Marine Corps, 1; for a total of 62. To date

751 officers of the various service components have completed full courses at this school.

**The Army War College, Washington, D.C.**—This school graduated the following numbers: Regular Army, 90; Marine Corps, 2; Navy, 4; for a total of 96. To date, 1,943 officers of the various service components have completed full courses at this school.

### RESERVE OFFICERS' TRAINING CORPS

	Units	Enrollment
Senior.....	226	97,549
Junior.....	139	64,389

In the 58 Reserve Officers' Training Camps during the summer of 1939, there were enrolled 428 basic course students and 8,698 advanced course students. A total of 36 preparatory schools, including high schools, received governmental aid. In the second year advanced course, there was an enrollment of 6,565 and, to 5,376 graduates from this course there were offered commissions in the Officers' Reserve Corps as Lieutenants, and 1,068 certificates were granted to graduates not immediately eligible for commissions.

### CITIZENS' MILITARY TRAINING CAMPS

There were 62,272 applicants; of these 39,401 were ordered to camp; 36,937 reported; these provided an enrollment of 35,579; from this enrollment, 34,589 completed the training. There were 1,856 graduates from the Blue Course.

### CIVILIAN EDUCATIONAL INSTITUTIONS

A total of 150 Commissioned Officers took courses of instruction at civilian institutions in the United States. They were divided among the several arms of the service as follows: Infantry, 1; Cavalry, 4; Field Artillery, 4; Coast Artillery, 2; Air Corps, 17; Corps of Engineers, 41; Signal Corps, 5; Adjutant General's Department, 1; Judge Advocate General's Department, 16; Quartermaster Corps, 9; Finance Department, 2;



# IX. DEFENSE AND ARMAMENT

## MEDALS AND DECORATIONS

Decoration	Awards Previously Made		Awards During Current Fiscal Year		Grand Total to July 1, 1939
	Medal	O.L.C.	Medal	O.L.C.	
Congressional medal of honor.....	1,825	0	0	0	1,825
Distinguished service cross.....	6,362	126	8	0	6,496
*Distinguished service medal.....	2,123	3	0	1	2,127
Silver star.....	9,979	1,661	511	51	12,202
Purple heart.....	60,849	5,577	3,052	173	69,651
Soldier's medal.....	231	0	50	0	281
Distinguished flying cross.....	86	5	2	0	93
French fourragere.....	2,602	0	41	0	2,643

\* Because of cancellation of certain awards of this decoration, when awarded Distinguished service crosses, under the provisions of the Act of Congress approved March 5, 1934, the number of such awards has been reduced from that shown in our last issue.

Medical Department, 37; Ordnance Department, 6; Chemical Warfare Service, 3; Chaplains, 2. Included in the total of 150 officers were 38 taking short courses varying in duration from six days to six months.

### FOREIGN SCHOOLS

A total of 25 Commissioned Officers of the Regular Army attended foreign schools as students: Ecole de Guerre, France, 2; German General Staff School, 2; Traveling Scholarship in Europe, 1; Technische Hochschule, Germany, 1; Oxford, England, 1. Language students, China and Japan, 13; France, 5.

### FOREIGN OFFICERS

During the year, 39 officers of the Army of the Philippines and of foreign armies attended our service schools or were attached to our units, as follows: Air Corps Training Center, 3; Air Corps Technical School, 1; Army Medical School, 2; Cavalry School, 1; Coast Artillery School, 1; Command and General Staff School, 4; Engineer School, 2; Field Artillery School, 2; Infantry School, 3; Ordnance School, 2; Quartermaster School, 1; Quartermaster Motor Transport School, 4; School of Aviation, Medicine, 5; Signal Corps School, 1; attached to units, 7. This group represented the following countries: Brazil, 4; China, 5; Colombia, 1; Cuba, 2; France, 1; Great Britain, 1; Ireland, 2; Nicaragua, 1; Peru, 2.

### ARMY EXTENSION COURSES

There were 340 courses made available, approximating 3,785,000 lessons and solutions. There were 105,648 individuals enrolled, an increase of 7,591 over the previous year. Included in this total were 1,427 Regular Army Officers, 60,729 Reserve Officers, 13,153 National Guard Officers, 1,147 Regular Army Enlisted Men, 891 Enlisted Reservists, 19,218 National Guard Enlisted Men, 3,808 C.M.T.C. trainees, and 5,275 civilians. A total of 65,563 students completed 159,637 subcourses, requiring 2,494,619

Service Medal	During Fiscal Year Ended June 30 1938	Grand Total to July 1 1939
Civil War campaign medal.....	295	2,765
Indian campaign medal.....	21	2,295
Spanish campaign medal....	173	11,034
Philippines congressional medal.....	58	6,964
Spanish war service medal..	520	28,239
Philippine campaign medal..	349	39,345
Army of Cuban occupation medal.....	211	7,943
Puerto Rican occupation medal.....	71	1,816
China campaign medal....	8	1,910
Army of Cuban pacification medal.....	3	6,455
Mexican service medal.....	43	17,026
Mexican border service medal.....	263	41,206
Victory medal.....	4,303	1,314,556

## ADMINISTRATION OF VETERANS AFFAIRS

hours of instruction, all accomplished at an average cost per student of \$1.43.

**Yangtze Service Medal.**—During the past fiscal year the War Department approved 11 applications for the issuance of the Yangtze service medal by the Major General Commandant of the United States Marine

Corps to officers, Army nurses, and enlisted men of the 31st United States Infantry and attached Army personnel who served with the 4th United States Marines at Shanghai, China, during the period Feb. 5 to July 1, 1932. This makes a grand total to July 1, 1939, of 674 such applications approved.

## ADMINISTRATION OF VETERANS AFFAIRS

By FRANK T. HINES

ADMINISTRATOR, VETERANS ADMINISTRATION

### ORGANIZATION

As of June 30, 1939, the organization of the Veterans Administration consisted of the following officers: Frank T. Hines, Administrator of Veterans' Affairs; Adelbert D. Hiller, Executive Assistant to the Administrator; Harold W. Breining, Assistant Administrator in charge of finance and insurance; Omer W. Clark, Assistant Administrator in charge of pensions and compensations; George E. Ijams, Assistant Administrator in charge of medical and domiciliary care and treatment, construction and supplies; Edward E. Odom, Solicitor in charge of legal activities; and Robert L. Jarnigan, Chairman of the Board of Veterans' Appeals.

### ADJUSTED COMPENSATION

The World War Adjusted Compensation Act, approved May 19, 1924, authorized the payment of adjusted compensation, otherwise known as the "Bonus," to veterans of the World War. As of June 30, 1939, benefits approximating \$3,764,718,308.49 in value had been extended to 4,115,280 veterans or the dependents of deceased veterans. In 3,789,783 of these cases, the veterans received adjusted service certificates equivalent to 20-year endowment policies, aggregating \$3,708,546,587 in value. Cash payments of \$50 or less had been made to veterans or their beneficiaries in the sum of \$53,986,404.44. Awards had been made on 240,864 adjusted service certificates which had matured by subsequent deaths of

veterans. The face value of these matured certificates approximated \$237,596,330.59.

The Adjusted Compensation Payment Act, approved Jan. 27, 1936, provided for the immediate payment of World War Adjusted Service Certificates. As of June 30, 1939, 3,494,607 applications had been certified for payment under this act and the maturity value of these certificates was \$3,424,119,301.

### UNITED STATES GOVERNMENT LIFE (CONVERTED) INSURANCE

The United States Government life insurance fund is a trust fund administered by the Government as trustee for the sole benefit of the policyholders. The Government derives no profit whatever from the administration of this fund as it may be used only for the payment of claims under United States Government life insurance contracts and as dividends to the policyholders themselves. All premiums paid by the policyholders, all interest received from policy loans, investments, etc., are covered into this fund in the United States Treasury.

As of June 30, 1939, there were in force 605,716 Government life insurance policies aggregating \$2,561,712,315 of insurance. During the fiscal year ended June 30, 1939, there were issued 25,341 new policies aggregating \$75,383,423. The actual disbursements made from this fund during the fiscal year 1939 totaled \$35,331,225.52.

## IX. DEFENSE AND ARMAMENT

### MILITARY AND NAVAL INSURANCE

Military and Naval insurance covers contracts held by veterans of the World War for a form of insurance formerly designated as "War Risk," insurance. This insurance is divided into two general classes, "Term" and "Automatic."

Term insurance was granted to all veterans of the World War who made application for this form of benefit within 120 days after induction into service. The amount of term insurance was limited to \$10,000 for each veteran. Monthly payments on term insurance policies are based on \$5.75 per \$1,000 of insurance in force at such time an award for disability or death is made. As of June 30, 1939, monthly payments were being made to 11,134 permanently and totally disabled veterans and to the beneficiaries of 19,097 deceased veterans. An analysis of the disabilities for which term insurance was being paid shows 51.03 per cent for neuropsychiatric diseases; 23.25 per cent for tuberculosis and 25.72 per cent for general medical and surgical conditions.

Automatic insurance was granted to those veterans of the World War who were disabled or who died within 120 days after being inducted into service and before application for term insurance was made. The amount of automatic insurance was limited to \$5,000. Monthly payments on automatic insurance policies were being made to 300 veterans and the beneficiaries of 172 deceased veterans. These payments are fixed by law at \$25 per month.

The disbursements for Military and Naval insurance during the fiscal year 1939 totaled \$38,393,938.70.

### GUARDIANSHIP

The Veterans Administration maintains a close supervision of all guardianship activities for incompetent veterans and minor beneficiaries. An effort has been made to utilize so far as possible the services of relatives as guardians of the person and the services of banks and trust companies as guardians of the estates of wards. As of June 30, 1939, the total guardian-

ship load was 84,749, of which 43,376 were incompetent and 41,373 minors. The total amount of estates was valued at approximately \$157,238,769.58, most of which was legally invested or deposited in banks protected by Federal Deposit Insurance.

### HONOR ROLL—YELLOW FEVER EXPERIMENTS

Public No. 868, 70th Congress, approved Feb. 28, 1929, recognized the high public service rendered by Major Walter Reed and those associated with him in the discovery of the cause and means of transmission of yellow fever. This act, in addition to establishing a roll of honor, granting medals, etc., authorized a monthly payment of \$125 to each of 17 designated persons during the remainder of their lives. As of June 30, 1939, 10 persons were receiving this benefit. The disbursements for this type of benefit during the fiscal year totaled \$15,000.

### REVOLUTIONARY WAR PENSIONS

**Veterans.**—The last veteran pensioner of the Revolutionary War was Daniel F. Bakeman who died at Freedom, N.Y., April 5, 1869 at the age of 109 years.

**Deceased Veterans.**—The last widow of a veteran of this war to receive pension was Esther S. Damon of Plymouth County, Vermont. Mrs. Damon died Nov. 11, 1906 at the age of 92 years.

### WAR OF 1812

**Veterans.**—Hiram Cronk, the last veteran pensioner of the War of 1812, died May 13, 1905, at Ava, N.Y., at the age of 105 years. As of June 30, 1939, the sole remaining pensioner of the War of 1812 was Esther Ann Hill Morgan of Independence, Ore., a dependent daughter of John Hill, deceased, private in Clark's and McCumber's Companies, New York. Mrs. Morgan was born March 9, 1857 and receives \$20 a month by a special act of Congress.

**Deceased Veterans.**—The last widow of a veteran of this war to receive pension was Caroline King of

## ADMINISTRATION OF VETERANS AFFAIRS

Cheektowaga, N.Y. Mrs. King died June 28, 1938 at the age of 89 years.

### MEXICAN WAR

**Veterans.**—The War with Mexico ended May 30, 1848. The last veteran pensioner of this war was Owen Thomas Edgar, an apprentice on board the *Potomac*, *Experiment*, *Pennsylvania* and *Alleghany*, U. S. Navy. Mr. Edgar died Sept. 3, 1929 at Washington, D.C., age 98 years.

**Deceased Veterans.**—On June 30, 1939, pensions were being paid to 166 widows and two helpless children of Mexican War veterans, representing a decrease of 27 in the number of dependents on the roll as of June 30, 1938. The disbursements made during the fiscal year 1939 totaled \$102,844.28.

### INDIAN WARS

**Veterans.**—On June 30, 1939, pensions were being paid to 2,525 veterans on account of Indian War service. This number represents a decrease of 289 veterans on the roll during the fiscal period. The average age of the 2,525 veterans was 79 years. Disbursements made for veteran pensioners of the Indian wars during the fiscal year 1939 totaled \$1,854,131.99.

**Deceased Veterans.**—As of June 30, 1939, pensions were being paid to the dependents of 4,251 deceased veterans of Indian Wars. The number of dependents totaled 4,290, classified as follows: 4,207 widows, 76 children and seven others. The disbursements for dependents of Indian War veterans during the fiscal year 1939 totaled \$1,564,663.34.

### CIVIL WAR

**Veterans.**—Out of a total of 2,213,365 who served in the Union forces in the Civil War, which terminated 74 years ago, pensions were being paid to 3,516 veterans on June 30, 1939. The average age for this group of veterans was 94 years. During the fiscal year 1939, the number on the pension roll for Civil War veterans decreased 1,532. The disbursements during this fiscal period for Civil War veterans totaled \$4,622,304.21.

**Deceased Veterans.**—On June 30,

1939, pensions were being paid to the dependents of 57,915 deceased veterans of the Civil War as compared with 66,873 on June 30, 1938. These dependents totaled 58,114 classified as follows: 55,665 widows and 2,449 children. Of the 57,915 death cases there were 7,462 cases in which the monthly payment was \$30, 43,811 cases in which the beneficiary received \$40 per month as provided by law for widows of the attained age of 70 years, 762 cases in which \$50 per month was being paid to widows who were wives of veterans during their Civil War service, 4,915 cases in which the dependents received pensions by special acts of Congress, and 965 cases in which the dependents were paid under general laws and service laws at miscellaneous rates because of the death of the veteran from causes due to military service. The disbursements for dependents of deceased veterans of the Civil War during the fiscal year 1939 totaled \$28,556,447.43.

### SPANISH AMERICAN WAR

**Veterans.**—On June 30, 1939, 165,710 veterans of the Spanish American War were receiving pensions. Of this number 140,811 were receiving pensions for disabilities of nonservice origin, 23,031 for age, 1,686 for service-connected disabilities, and 112 were special act cases. A study of the age of these pensioners shows that 64 per cent were between the ages of 55 and 65 as of the above date. The number of veterans on the roll decreased 5,045 during the fiscal year 1939. The disbursements for pensions to Spanish American War veterans during the fiscal period amounted to \$105,065,718.76.

**Deceased Veterans.**—As of June 30, 1939, pensions were being paid to the dependents of 55,882 deceased veterans of the Spanish American War as compared with 53,345 June 30, 1938. Of the 55,882 death cases, 1,483 were service-connected, 54,339 non-service connected and 60 special act cases. The number of dependents involved totaled 62,186 classified as follows: 53,352 widows, 8,378 children and 456 parents. During the fiscal year 1939, \$20,232,011.22 was paid in



## IX. DEFENSE AND ARMAMENT

pensions to dependents of Spanish American War veterans.

### REGULAR ESTABLISHMENT

**Veterans.**—As of June 30, 1939 the number of veterans receiving pensions as a result of disabilities incurred in service in time of peace totaled 34,185 as compared with 33,062 on June 30, 1938. The disbursements for this class of pensioners during the fiscal year 1939 totaled \$8,929,468.26.

**Deceased Veterans.**—On June 30, 1939 pensions were being paid to the dependents of 9,415 deceased veterans where death of the veteran was determined to be the result of disease or injury originating in line of duty in the military or naval service in time of peace. There was an increase of 690 death cases during the fiscal year 1939. The number of dependents receiving pension as of June 30, 1939 totaled 14,962, consisting of 5,162 widows, 5,423 children and 4,377 parents. The disbursements for pensions to dependents of deceased veterans of the Regular Establishment during the fiscal year 1939 totaled \$2,910,175.04.

### WORLD WAR

**Veterans, Service-Connected.**—During the fiscal year 1939, the number of veterans receiving compensation for disabilities directly or presumptively connected with service during the World War increased from 340,590 to 342,072. An analysis of the major disabilities of the 342,072 veterans on the pension roll June 30, 1939 shows that 19.69 per cent were neuropsychiatric diseases, 16.27 per cent were tubercular ailments, and 64.04 per cent were general medical and surgical conditions. Of these veterans 2,754 resided outside the continental limits of the United States. During the fiscal year 1939, \$166,948,863.01 was paid in compensation to service-connected World War veterans.

**Veterans, Nonservice-Connected.**—As of June 30, 1939, pensions were being paid to 52,936 totally disabled World War veterans whose disabilities were not of service origin. This number shows an increase of 6,188 in

the pension roll during the fiscal year 1939. Of the 52,936 veterans, 1.13 per cent were over 68 years of age, 2.47 per cent were over 62 years of age and 6.34 per cent were over 55 years of age. The disbursements during the fiscal year 1939 for pensions to nonservice-connected World War veterans totaled \$17,100,317.81.

**Emergency Officers.**—As of June 30, 1939, 1,832 Emergency Officers of the World War were entitled to receive retirement pay. However, only 1,799 were receiving full pay and 14 were receiving partial pay. Of the partial payment group, six were due to the beneficiary being an enlisted man of the Regular Army, and eight were due to the application of section 212 of Public No. 212, 72nd Congress, approved June 30, 1932, which provided that in case the salary of any retired officer (except those whose disability was incurred in combat with an enemy of the United States) in the employ of the Federal Government together with the retirement pay exceeds \$3,000 per annum, the retirement pay should be reduced or discontinued so that the sum of the two shall not exceed \$3,000. Of the remaining 19 eligible cases, complete forfeitures were made for the following reasons: 15 were due to section 212 cited above; two were in active duty in the National Guard and two were incompetent—estate over \$1,500. The disbursements for Emergency Officers retirement pay during the fiscal year 1939 totaled \$2,991,326.30. Of the 1,832 Retirement Officers entitled to retirement pay on June 30, 1939, 1,795 served in the Army, 24 in the Navy and 13 in the Marine Corps.

**Deceased Veterans, Service-Connected.**—On June 30, 1939, compensation was being paid to the dependents of 99,822 veterans who died in service or as a result of diseases or injuries incurred in service during the World War. These dependents totaled 146,989 and were classified as follows: 29,070 widows, 35,521 children and 82,398 parents. An analysis of the principal causes of death of service-connected World War veterans whose dependents were receiving benefits as

## ADMINISTRATION OF VETERANS AFFAIRS

of June 30, 1939, discloses that 30 per cent were tubercular ailments, 26 per cent were injuries principally wounds in action, and 24 per cent were diseases of the respiratory system other than tuberculosis. A further study reveals that in 32 per cent of these death cases, death occurred prior to July 2, 1921, the official ending date of the World War. The disbursements for service-connected death compensation during the fiscal year 1939 totaled \$51,436,165.79.

**Deceased Veterans, Nonservice-Connected.**—Public No. 484, 73rd Congress, approved June 28, 1934, authorized the payment of compensation to the widows and children of World War veterans who died from disabilities of nonservice origin while receiving compensation for a service-connected disability rated 30 per cent or more and where death was not due to misconduct. This act was amended June 29, 1936, by Public No. 844, 74th Congress which included the presumptive cases and eliminated the misconduct clause. On Aug. 16, 1937, Section 1, Public No. 304, 75th Con-

gress reduced the percentage of service-connected disability from 30 to 20 per cent as pertaining to a widow's claim providing a child was born of the marriage and to minor children in case of the death or remarriage of the widow. This section was repealed May 13, 1938 by Section 4, Public 514, 75th Congress, which reduced the rate of service-connected disability from 20 to 10 per cent providing marriage to the veteran occurred prior to May 13, 1938. On June 30, 1939, compensation was being paid to the dependents of 12,220 deceased World War veterans, nonservice-connected. These dependents were classified as follows: 10,356 widows and 19,500 children. The disbursements for this purpose during the fiscal year 1939 totaled \$4,389,240.92.

### GRAND TOTAL—PENSIONS AND COMPENSATIONS

The following table shows the number of pension and compensation cases of living and deceased veterans by wars including Regular Establishment and Honor Roll—Yellow Fever

War	On Roll June 30, 1939	Disbursements Fiscal Year 1939
Honor Roll—Yellow Fever Experiments		
Living veterans.....	10	\$ 15,000.00
War of 1812		
Deceased veterans.....	1	190.00
Mexican War		
Deceased veterans.....	168	102,844.28
Indian Wars—Total.....	6,776	3,418,795.33
Living veterans.....	2,525	1,854,131.99
Deceased veterans.....	4,251	1,564,663.34
Civil War—Total.....	61,431	33,178,751.64
Living veterans.....	3,516	4,622,304.21
Deceased veterans.....	57,915	28,556,447.43
Spanish American War—Total.....	221,592	125,297,729.98
Living veterans.....	165,710	105,065,718.76
Deceased veterans.....	55,882	20,232,011.22
Regular Establishment		
Living veterans.....	43,600	11,839,643.30
Deceased veterans.....	34,185	8,929,468.26
World War—Total.....	9,415	2,910,175.04
Living veterans.....	508,863	242,865,913.83
Service connected.....	396,821	187,040,507.12
Nonservice connected.....	342,072	166,948,863.01
Emergency Officers.....	52,936	17,100,317.81
Deceased veterans.....	1,813	2,991,326.30
Service connected.....	112,042	55,825,406.71
Nonservice connected.....	99,822	51,436,165.79
Grand Total—Pensions and Compensations.....	12,220	4,389,240.92
Living veterans.....	842,441	\$416,718,868.36
Deceased veterans.....	602,767	307,527,130.34
	239,674	109,191,738.02

## IX. DEFENSE AND ARMAMENT

Experiments as of June 30, 1939 and the disbursements during the fiscal year 1939.

### MEDICAL

**Hospitalization.**—On June 30, 1939 the hospital load of the Veterans' Administration was 54,117. Of this number 53,861 were United States veterans classified by service as follows: World War, 48,527; Spanish American War, 2,715; Civil War, 48; all other wars, expeditions and occupations, 85; and Regular Establishment, 2,486. Other hospital patients included 37 allied veterans of the World War, 106 employees of the Civilian Conservation Corps and Works Progress Administration, and 113 miscellaneous beneficiaries. Of the 53,861 United States veterans 77.54 per cent were receiving treatment for disabilities not of service origin. Veterans to the number of 50,131 were in facilities controlled by the Veterans Administration, 2,749 in other government hospitals, and 981 in state or civil institutions. Over 64 per cent of these veterans were receiving treatment in facilities located in the state of their reported addresses.

The admissions for the fiscal year 1939 were the highest of any fiscal year to date. These admissions included 165,576 United States veterans, 199 allied veterans of the World War, 1,675 employees of the Civilian Conservation Corps and Works Progress Administration, and 787 miscellaneous beneficiaries. Of the 165,576 United States veterans, admissions were authorized for 11,268 for observation and treatment of tuberculosis, 9,372 psychotic or mental diseases, 13,240 for other neurological disorders and 131,696 for general medical and surgical conditions.

During the fiscal year 1939, 218,621 United States veterans were under hospitalization. Of this number, 164,760 were discharged after an average of 72.4 in-patient days. Patients who remained until the completion of treatment numbered 132,919 or 80.67 per cent of the total discharges. Approximately 78 per cent of the veterans discharged during this fiscal pe-

riod had been under treatment for general medical or surgical conditions, 15 per cent for neuropsychiatric diseases and seven per cent for tuberculosis. The veterans discharged during the fiscal year were classified as follows: World War, 133,539 service-connected and 10,226 nonservice-connected; Spanish American War, 90 service-connected and 7,246 nonservice-connected; Regular Establishment, 2,014 service-connected and 2,967 nonservice-connected; Civil War, 179 nonservice-connected; and miscellaneous occupations, rebellions, etc., 2 service-connected and 216 nonservice-connected. Other discharged patients included 202 allied veterans, 1,689 employees of the Civilian Conservation Corps and Works Progress Administration and 741 miscellaneous beneficiaries.

**Domiciliary Care.**—At the close of the fiscal year 1939 the veteran population reported as present in domiciliary status in facilities under the control and jurisdiction of the Veterans' Administration totaled 15,426. This number was divided as to color and sex as follows: white males, 13,708; white females, 66; and colored males, 1,652. The percentage distribution of the above veteran patients by wars were: World War, 91.13 per cent; Spanish American War, 4.95 per cent; Civil War, 0.01 per cent; other wars, expeditions and occupations, 0.12 per cent; and peace-time service in the Regular Establishment, 3.79 per cent. An analysis of the causes of disabilities of these veterans shows 10,644 to be general medical and surgical conditions; 4,461, neuropsychiatric diseases; and 321, tubercular ailments. Over three-fourths of the domiciled veterans on June 30, 1939 were under care in facilities located in California, Kansas, Ohio, Tennessee, Virginia and Wisconsin. The approximate average age of the veterans of each of the major wars who were present in domiciliary status at the close of the fiscal period was as follows: Civil War, 94 years, Spanish American War, 64 years, and World War, 46 years.

During the fiscal year 1939, there were 29,337 veterans admitted for



## ADMINISTRATION OF VETERANS AFFAIRS

domiciliary care. Of this number, 26,418 or 90 per cent had served in the World War and 1,652 or six per cent in the Spanish American War. Approximately 91 per cent of the admissions were for disabilities not of service origin. Of the veterans admitted for domiciliary care during this period, 72 per cent were treated for general medical and surgical conditions, 26 per cent for neuropsychiatric diseases, and two per cent for tubercular ailments.

During the fiscal year 1939, 27,847 veterans were discharged after an average of five months of domiciliary care. These discharges were classified as follows: 13,220 routine; 8,415 transfers within the same or to other facilities; 61 deaths; 443 ineligible for further care; and 5,708 without formal discharge, including disciplinary reasons. Approximately 70 per cent of the veterans discharged had been treated for general medical conditions. Of the total discharged, 24,923 were World War veterans and of these 22,328 had been treated for non-service-connected disabilities.

In conformity with the act of Aug. 27, 1888 (U.S.C., title 24, Sec. 134), the Federal Government is required to reimburse State or Territorial Homes for disabled soldiers at the rate of \$120 per year for each person domiciled therein who is eligible for similar care in facilities controlled by the Veterans' Administration. During the fiscal year 1939 an average of 5,978 such persons were cared for in these homes, thereby creating an obligation of over \$717,000 on the part of the Federal Government. Public No. 250, 76th Congress, approved Aug. 1, 1939, increased the amount of Federal aid to State or Territorial Homes from \$120 to \$240 annually.

**Dental Care.**—During the fiscal year 1939, dental care was provided for 57,254 hospital patients, 11,537 domiciliary members, and 3,735 outpatients in clinics maintained by the Veterans' Administration, at an annual cost of \$938,537. Had these services been secured through the medium of private practitioners, the cost would have approximated \$1,807,389.

Dental treatment was provided for 521 employees of the Civilian Conservation Corps, amounting to \$2,028. During this fiscal period, 28,887 artificial dentures were made and 7,971 repaired in dental clinics of the Veterans Administration. Dental treatment was authorized to private practitioners for 1,841 veterans, amounting to \$75,889 during the same period.

**Out-patient Examinations and Treatments.**—Physical examinations for out-patient purposes to the number of 1,127,162 were made in field facilities during the fiscal year 1939. Of these examinations 98 per cent were medical and two per cent dental. Treatments furnished during the year for out-patient purposes totaled 1,079,663, 91 per cent of which were medical and nine per cent dental.

### CIVILIAN CONSERVATION CORPS

The veterans' contingent of the Civilian Conservation Corps was established by Executive Order in May, 1933 and original enrollments were begun the following month. Veterans were enrolled in the Corps under the provisions of this order and regulations were issued pursuant thereto until the passage of the Civilian Conservation Corps Act, June 28, 1937. This act authorized the Director of the Corps to have enrolled not more than 30,000 war veterans in the Corps at any one time. The Veterans Administration determines the eligibility of applicants for membership in the veterans' contingent, except as to physical requirements, selects the requisite number to maintain the authorized quota, and certifies such selectees to the War Department for physical examination and enrollment. The quota is apportioned to states and the District of Columbia primarily on a population basis. Enrollments are made quarterly to fill vacancies caused by veterans obtaining their discharges to accept other employment or for some other reason. During the six years of operation of the Civilian Conservation Corps employment has been provided for some 185,000 veterans and support to some 315,000 of their dependents.



## IX. DEFENSE AND ARMAMENT

During the fiscal year 1939, 16,411 veterans were enrolled. On June 30, 1939, there were 23,442 veterans enrolled, and immediate replacements had been authorized to bring the contingent to a strength of 27,000.

### FINANCE

During the fiscal year 1939, the total disbursements made by the Veterans Administration from all appropriations and trust funds (including adjustments on lapsed appropriations) were as follows:

Appropriations	Disbursements
Salaries and Expense (General Administration).....	\$ 87,788,949.39
Printing and Binding.....	121,279.07
Medical Hospital and Domiciliary Services.....	-13,013.69 <sup>1</sup>
State and Territorial Homes.....	-30.00 <sup>1</sup>
Adjusted Compensation Payment Act, 1936 (Administrative).....	3,205.22
Public Works Administration Act of 1938 (Allotment to Veterans Administration 1938-1940).....	4,354,999.35
Hospital and Domiciliary Facilities and Services Veterans Administration (Construction).....	6,602,668.51
National Industrial Recovery, Veterans Administration.....	5.00
Army and Navy Pensions.....	416,718,868.36
Military and Naval Insurance.....	38,393,938.70
United States Government Life Insurance Fund.....	35,331,225.52 <sup>2</sup>
Adjusted Service Certificate Fund.....	7,413,848.79
Adjusted Service and Dependent Pay.....	1,185,414.37
Vocational Training.....	-1,657.18 <sup>1</sup>
Allotments and Allowances.....	-335.50 <sup>1</sup>
General Post Fund.....	134,132.38
Funds due Incompetent Beneficiaries.....	135,758.00
Personal Funds of Patients, Veterans Administration.....	2,031,166.42
Miscellaneous.....	21,111.43
<b>Total.....</b>	<b>\$600,221,534.14</b>

<sup>1</sup> Credits

<sup>2</sup> Includes encumbrances.

## WATERWAYS AND HARBORS

By JULIAN L. SCHLEY

MAJOR GENERAL, U.S.A.; CHIEF OF ENGINEERS, WAR DEPARTMENT

### INLAND WATERWAYS

The principal inland navigable waterways are the Great Lakes, the New York State Canal system, the Mississippi River system, embracing the Mississippi, Ohio, Illinois Waterway to Chicago, Missouri, Tennessee, Monongahela, Allegheny, Kanawha, Arkansas and Red, and other streams; the rivers of the Atlantic Coast, and the Intracoastal Waterway system connecting these rivers; the Intracoastal Waterway from St. Marks River in Florida, *via* Mobile, New Orleans, and Galveston, down the Texas Coast to Corpus Christi, connecting with streams of southern Georgia, Alabama, Mississippi, Louisiana, and Texas, and with the Mississippi River system; the San Joaquin-Sacramento system in California; the Columbia system in the

northwest; and the smaller Pacific Coast rivers.

The Great Lakes have natural deep water except in the connecting channels, these channels having been artificially deepened where necessary to accommodate a draft of 24 feet; and the Welland Ship Canal joining Lakes Erie and Ontario, as improved by Canada, has a permissible draft of 23.5 feet. The more important harbors on the Great Lakes accommodate drafts of 24 feet. The 12-foot New York State Barge Canal is being deepened to 14 feet between the Hudson River and Lake Ontario at Oswego. The Atlantic Intracoastal Waterway system between Trenton, N.J., and Wilmington, N.C., has been completed to project depths of not less than 12 feet, and thence to Key Largo, Fla., 63 miles below Miami,

## WATERWAYS AND HARBORS

with project depths of from seven to 10 feet. Deepening of the waterway to 12 feet between Wilmington, N.C., and St. Johns River, Fla., has been authorized by Congress.

Dredging in Cape Cod Canal to secure a channel width of not less than 500 feet and a depth of 32 feet at mean low water is actively in progress. The Chesapeake and Delaware Canal has been dredged to 27 feet. On the Gulf Coast, projects have been adopted to provide a protected Intracoastal Waterway not less than nine feet in depth between St. Marks River, Fla., and Corpus Christi, Tex., more than 1,000 miles, and this depth is available from Apalachicola to Galveston. Dredging of the waterway south of Galveston is in progress. The Mississippi has a 9-foot depth from Baton Rouge to St. Louis, and work is practically completed on the construction of a series of 26 locks and dams, which provide a 9-foot channel thence to Minneapolis.

At the close of the fiscal year 1939, there were approximately 1,000 authorized river and harbor projects in force, active operations having been carried out on 379 of these projects during the year. There are also some 400 flood control projects in force.

### MISSISSIPPI RIVER SYSTEM

The Mississippi River navigation system comprises several thousand miles of connected channels, the improvement of which has involved the construction of locks and dams, contraction dikes and revetments to regulate and stabilize channel alignments, reservoirs, and periodic dredging through recurring river bars. The authorized channel depths at ordinary low water in the Mississippi River and its principal tributaries, upon which improvement has been completed or is in progress and well advanced are:

Mississippi River, 35 feet from the Gulf of Mexico to Baton Rouge, La., thence nine feet to St. Paul and Minneapolis, Minn.; Missouri River, six feet to Sioux City, Ia.; Ohio River, nine feet to Pittsburgh; Illinois River, nine feet to Chicago; Ten-

nessee River, nine feet to Knoxville, Tenn.; Cumberland River, six feet to a point some 320 miles above Nashville, Tenn.; Monongahela River, seven to 10 feet to Fairmont, W. Va.; Allegheny River, nine feet to East Brady, Pa.; Kanawha River, nine feet to Kanawha Falls, W. Va.; Little Kanawha River, four feet to Creston, W. Va.; Muskingum River, 4½ feet to vicinity of Dresden, O.; Big Sandy River, six feet to above Louisa, Ky.; Kentucky River, six feet to Beattyville, Ky.; Green and Barren Rivers, four feet to Bowling Green, Ky.; Arkansas River, clearing of channel in lower 465 miles; Ouachita River, 6½ feet to Camden, Ark.; White River, clearing channel of obstructions to Batesville, Ark.; Red River, clearing of obstructions to Fulton, Ark.; Black River, clearing of obstructions to Poplar Bluff, Ark.; Current River, clearing of obstructions to Van Buren, Mo.; St. Francis River, clearing of obstructions to Marked Tree, Ark.; and Wolf River, nine feet at Memphis, Tenn.

The Fort Peck Dam on the Missouri River in Montana is also included in the Mississippi system. Construction of this dam, of unprecedented dimensions, is well advanced and when completed will create a storage reservoir of some 20,000,000 acre feet capacity, thus permitting control and regulation of flow for navigation and other purposes. The impoundment of water in the reservoir was commenced during the past year, and facilities to develop hydroelectric power, as authorized by Congress, will be incorporated in the project.

### SAN JOAQUIN-SACRAMENTO SYSTEM

The improved channels in Suisun Bay, San Joaquin and Sacramento Rivers, tributary to San Francisco Bay, now provide depths of 30 feet to Stockton on the San Joaquin and 10 feet on the Sacramento to the City of Sacramento. These channels, including improved channels in streams tributary thereto, now support an annual water-borne commerce in excess of 4,500,000 tons.

## IX. DEFENSE AND ARMAMENT

### COLUMBIA RIVER SYSTEM

Improvement of Columbia River for navigation to and above Portland, Ore., and Vancouver, Wash., has involved, in addition to dredging and channel contraction works, the construction of jetties, monumental in character, at the entrance from the Pacific Ocean, and construction of Bonneville Dam, 42 miles east of Portland. The jetties, as completed more than 20 years ago, have proved eminently successful in maintaining a safe channel through the exposed ocean bar adequate for deep-draft commerce. Bonneville Dam, completed in 1938, in combination with dredging now in progress in the river between Vancouver and the dam, will provide for extension of deep-draft navigation to The Dalles, Ore., 45 miles above Bonneville and 188 miles above the mouth of the river. The Columbia River projects provide for depths of not less than 40 feet at the mouth, 35 feet to Portland, 30 feet to Vancouver, 27 feet to Bonneville, and thence to The Dalles, and seven feet above The Dalles to Wallula. The ship lock, forming a part of the Bonneville Dam, has an unprecedented lift of 62½ feet, while the facilities for the safe passage of salmon and other migratory fish to and from the spawning grounds in the river above the dam constitute an outstanding departure in fishway design. The initial installation of two main generating units of 43,200 kilowatts capacity each in the dam has been completed and preparations are being made for four additional generators of 54,000 kilowatts capacity each, the installation of which has been requested by the Bonneville Power Administrator.

### MISSISSIPPI RIVER FLOOD CONTROL

The flood control project for the Mississippi River in its alluvial valley and for its improvement from the Head of Passes to Capt Girardeau, Mo., was adopted by the Act of May 15, 1928, and amended by the Acts of June 15, 1936 and June 28, 1938. The total authorization for the adopted project, as amended, is \$637,-

000,000, of which \$390,000,000 has been appropriated and expended or scheduled for expenditure before the next appropriation becomes available.

The amendments retain the purposes and the completed features of the 1928 act, and authorize extension of flood control work in the alluvial valley of the Mississippi River from Cape Girardeau, Mo. to the Gulf of Mexico, including the St. Francis, Yazoo, Tensas and Atchafalaya Basins, as well as the alluvial lands around Lake Pontchartrain, for protection against the maximum predicted flood. North of the Arkansas River, floods will be confined generally to the main leveed channel; however, a limited area in the St. Francis Basin and the city of Cairo, Ill. are given additional protection by the New Madrid floodway. South of the Arkansas River, flood waters, in excess of what the leveed channel of the main river will carry safely, will find their way to the Gulf through floodways located in the lowlands west of the river. New Orleans is given additional protection by the Bonnet Carre Spillway, emptying into Lake Pontchartrain, a few miles above the city. In addition to levee work, the project includes construction of revetments and regulating works to prevent bank caving and to stabilize the channel in the interest of navigation.

The project as amended includes the Eudora floodway through the Macon Basin and a back protection levee extending from the head of this floodway north to Arkansas River. South of Red River it provides for construction of the Morganza floodway extending from the Mississippi River north of Morganza into the Atchafalaya floodway south of Krotz Springs and for the improvement of the discharge capacity of the Atchafalaya River and of its outlets, as well as the construction of an additional outlet from the Atchafalaya Basin to the Gulf of Mexico, *via* Wax Lake, La.

### NATIONAL FLOOD CONTROL

A definite flood control policy providing for the construction of eco-

## WATERWAYS AND HARBORS

nomically justified flood control projects throughout the United States by the Federal Government in co-operation with the states, political subdivisions thereof, or other local interests, was established by act approved June 22, 1936. The Flood Control Act approved June 28, 1938, provides for material expansion of Federal participation in flood control.

Among the works under way or about to be placed under way are: reservoir projects in the Merrimack and Connecticut River Basins (Conn., Mass., N. H., and Vt.); two reservoirs and several local protection projects for the southern New York and northern Pennsylvania area; levees and incidental works for the protection of several cities and towns along the Susquehanna River; levees along the Savannah River to protect Augusta, Ga.; Tionesta, Mahoning, Loyalhanna and Crooked Creek Dams in Pennsylvania for the protection of Pittsburgh and the reduction of floods in the Ohio River Basin generally, and channel improvement work to protect Johnstown, Pa.; local protection for several cities and towns along the main stem of the Ohio River; construction of reservoirs, channel improvements and levee projects within the Los Angeles, San Gabriel and Santa Ana River Basins for protection of the metropolitan areas in Los Angeles and Orange Counties, California.

### WATER-BORNE COMMERCE AND TERMINAL FACILITIES

The total net water-borne commerce of the United States in 1938, after eliminating all known duplications, amounted to 466,900,000 short tons. Existing wharf, dock and terminal facilities were enlarged during the year and new equipment installed for handling cargo and transferring it to and from shipside. Outstanding examples of such improvements by state, municipal, and private interests are enumerated below.

#### NORTH ATLANTIC PORTS

**Boston.**—The Department of Public Works of the Commonwealth of Massachusetts was actively en-

gaged in the improvement of channels and facilities at Boston, some of the principal works being the dredging of channels at East Boston, Malden River, and Neponset River, and the installation of an electrically-operated baggage conveyor at Commonwealth Pier No. 5 in South Boston. Private interests made improvements including the construction of a 120,000-barrel underground tank for the storage of crude petroleum, the installation of a 10,000-cubic-foot illuminating gas tank, and the dredging of a berth 500 feet long, 85 feet wide, and 30 feet deep for coal and oil vessels.

**New York.**—The Department of Docks, City of New York, completed the installation of a loading platform, passenger elevator, baggage conveyor, plumbing and water supply system, and an asphalt pavement at Pier 45, North River, and began work on the construction of Pier 64, North River. The Department of Parks, City of New York, completed the Flushing Meadow Boat Basin at Flushing Bay which is constructed of cellular steel sheet piling supplemented by a wooden pier; started work on the Inwood Hill Boat Basin near the mouth of the Harlem River which will provide accommodations for about 75 cabin cruisers; and constructed sea walls, riprap bulkhead, and hydraulic fills along the shore in various parts of the harbor. The City of Jersey City, under W.P.A. grants, completed general repairs to the Municipal Pier (Pier B), Jersey City, and to the public wharf at the foot of Howell Street. The Bayonne Terminal between the foot of East 33 Street and East 45 Street was completed at a total cost of approximately \$4,000,000. It covers about 150 acres and is capable of handling all types of ocean freight vessels now in use. The City of Newark, through a P.W.A. grant, redredged the City Channel to its original project depth of 30 feet below mean low water.

**Philadelphia.**—Work was begun on the construction of an open deck pier at the foot of Shelmire Street, Tacony, in upper Philadelphia Harbor. The pier will be 115 feet wide and



## IX. DEFENSE AND ARMAMENT

500 feet long and will have railway connections and a marine railway.

### SOUTH ATLANTIC PORTS

**Baltimore.**—A new concrete pier was built by a ship repair company at which a 20,000-ton floating dry dock has been placed in operation. A general cargo pier at the port was widened about 26 feet for a length of 270 feet and a new pier, 60 feet by 35 feet, built.

**Richmond, Va.**—The City of Richmond began the construction of a deep water terminal about  $4\frac{1}{2}$  miles below the city. It will consist of a dredged turning basin 28 feet deep and about 2,800 feet long, varying in width from about 200 feet to about 450 feet, a wharf wall 1,250 feet long, transit sheds, warehouses, rail connections, and a water and electric supply system.

**Savannah, Ga.**—Construction of a \$1,500,000 plant for the manufacture of gypsum products was begun. The work completed during the year included a concrete and steel wharf, 400 feet long, equipped with an automatic crane capable of unloading 400 tons of crude gypsum per hour. A \$300,000 plant for manufacturing asphalt products was practically completed. A large paper plant made improvements at its terminal and the oil storage facilities were increased by the addition of three tanks with a total capacity of 56,000 barrels.

**Jacksonville, Fla.**—A plant for the manufacture of gypsum products, including a pier 488 feet long and 36 feet wide, was completed south of the mouth of Trout River. Work was about 50 per cent completed on a general cargo terminal on the north side of St. Johns River. This terminal will provide 415 feet of docking space along the slip and 350 feet at the head of the pier, and will be equipped with a warehouse providing 74,800 square feet of storage space. Two shipside warehouses, each served by depressseed tracks, were built at other locations in the harbor, one being 100 feet long and 70 feet wide and the other 300 feet by 100 feet.

**Hollywood Harbor (Port Everglades), Fla.**—An oil company con-

structed two storage tanks with capacities of 42,000 and 15,000 barrels, installed additional pipe line facilities and a gasoline pumping plant, and made other improvements at its plant. A fertilizer plant and warehouse was constructed on the south side of Slip No. 1. The Broward County Port Authority constructed an addition, 200 feet long by 75 feet wide, on the east end of the warehouse on the north side of Slip No. 1.

**Miami Harbor (Biscayne Bay), Fla.**—A new terminal, known as the Causeway Terminal, located north of the main ship channel and adjacent to the County Causeway, was constructed for the use of cruise and cargo ships and yachts.

### GULF COAST PORTS

**Tampa, Fla.**—Two shipbuilding ways were constructed; new machinery consisting of steel plate rollers, hydraulic presses, cutting and punching machines were installed. A 150-foot addition was constructed at a steamship dock on the east side of Ybor Channel and a warehouse containing 30,000 square feet of storage space was built.

**Port St. Joe, Fla.**—A marginal bulkhead wharf, 2,922 feet long, with adequate trackage and a modern brick and sheet metal warehouse, was constructed on St. Josephs Bay. A canal, nine feet deep, 70 feet wide at the bottom, and approximately  $6\frac{1}{2}$  miles long, was constructed by Gulf County, Fla. to connect St. Josephs Bay and the Intracoastal Waterway from Apalachicola Bay to St. Andrews Bay, Fla.

**Mobile, Ala.**—The Alabama State Docks and Terminals began construction of a bulk fertilizer storage and handling plant which will have a complete system of modern conveyors for handling bulk material between ship, barge, storage, car or truck. Work was also begun on a slip, 1,000 feet long, 175 feet wide, and 32 feet deep, to be dredged north of present Pier C, and on a concrete wharf, 1,225 feet in length, along the south side of the slip with a transit shed 130 feet wide and 1,000 feet long.

**New Orleans.**—The Board of Port

## WATERWAYS AND HARBORS

Commissioners installed two grain drier units, each with a capacity of 1,000 bushels per hour, in the existing drier building. A 100,000-gallon steel water tank, with necessary pumps and piping, was installed at the Public Cotton Warehouse.

**Beaumont, Tex.**—The Beaumont Port Commission began work on a wharf and warehouse on the Beaumont Turning Basin extension. The wharf is to be approximately 500 feet long, constructed of creosoted pile and timber bents with supporting steel beams which carry a concrete deck. The warehouse is to be of steel construction supported on concrete piling with a concrete slab floor.

**Corpus Christi, Tex.**—Improvements made by the Nueces County Navigation District included a slip and oil dock at the northwest corner of Avery Point Turning Basin and an oil loading wharf on the north side of the main turning basin. A tank company constructed an oil loading wharf and slip on the south side of the Industrial Canal. Tanks were erected at more than a dozen plants providing an additional 2,500,000 barrels of storage.

**Brazos Island Harbor, Tex.**—At the Port of Brownsville a steel and reinforced concrete warehouse was erected which has 40,000 square feet of storage space. At Port Isabel, the shipside warehouse was extended 120 feet, making the building 320 feet long and 100 feet wide.

### PACIFIC COAST PORTS

**Stockton, Calif.**—Private interests had under construction extensions providing an additional 33,600 square feet of storage space for the cotton compress warehouses and a 1,500,000-gallon tank for storing crude molasses. An oil wharf and terminal was constructed on private property on Rough and Ready Island.

**San Francisco.**—A two-story building, averaging approximately 150 feet in width and 328 feet in length and having an area of 49,000 square feet on each floor, was constructed as an addition to the State Terminal.

**Oakland.**—New equipment was put in service at the Seventh Street Unit

to facilitate the handling of copra from sacks to blowers and from the holds of vessels to dump trucks or railroad cars. A 40,000-gallon oil tank was installed at a vegetable oil plant, and the latest type of bean cleaning equipment was installed in Terminal Building "C".

### GREAT LAKES PORTS

**Duluth-Superior.**—Coal storage space at one of the large coal docks was increased, the new storage area having a floored surface of 164 feet by 2,000 feet and a capacity of 250,000 tons of coal. Nine tanks were constructed in Superior for the storage of fuel oil, gasoline, and kerosene, increasing the oil storage capacity at the port by 340,000 barrels.

**Detroit.**—A bulk petroleum storage and distribution plant, consisting of 33 storage tanks and a building for mixing and blending lubricating oil, was constructed on the west bank of the Rouge River.

**Sandusky, O.**—A large coal dock was completed, work on which was begun in 1937, a 22-foot channel was excavated along its easterly face, and a modern car tipple with a capacity of 60 seventy-ton cars per hour was installed near the outer end of the dock.

### NET TOTAL INLAND WATERWAY COMMERCE, 1929-38

Year	Short Tons	Value
1929	245,894,000	\$3,871,300,000
1930	226,760,000	3,577,000,000
1931	179,735,000	2,816,463,000
1932	151,276,000	2,589,992,000
1933	182,965,000	3,088,615,000
1934	194,786,000	3,463,331,000
1935	225,918,000	4,286,973,000
1936	276,264,000	4,699,343,000
1937	313,287,000	5,556,681,000
1938	277,755,000	5,657,887,000

### INLAND WATERWAY COMMERCE

The following table shows the freight traffic for 1938 for waterways under improvement by the Federal Government, excluding the traffic on short deep stretches of rivers which are considered approaches to ports, and such tonnage for the Detroit River as is in excess of that carried through the locks at Sault Ste. Marie:

# IX. DEFENSE AND ARMAMENT

	Short Tons	Value
<b>ATLANTIC COAST RIVERS:</b>		
Hudson River (except lower section).....	11,381,980	\$ 198,035,427
Delaware River above Philadelphia.....	3,136,289	21,799,874
Chesapeake Bay tributaries;		
Potomac River below Washington.....	2,171,305	73,259,731
James River.....	2,357,313	80,302,628
Other tributaries.....	3,826,170	80,085,950
St. Johns River above Jacksonville.....	663,662	28,837,694
All others, Atlantic Coast.....	6,554,105	100,287,220
<b>GULF COAST RIVERS:</b>		
Mobile River tributaries.....	1,272,785	33,727,812
Black Warrior, Warrior, and Tombigbee Rivers.....	1,851,972	40,724,766
Southern Louisiana waterways (except Mississippi River).....	6,039,462	88,758,440
All others, Gulf Coast.....	1,615,657	12,774,258
<b>PACIFIC COAST RIVERS:</b>		
San Joaquin River, Calif.....	991,344	42,957,699
Sacramento River, Calif.....	623,422	38,500,330
Columbia River System:		
Columbia and Lower Willamette Rivers below Vancouver,		
Wash. and Portland, Ore.....	14,036,979	336,492,891
Other sections of Columbia River.....	1,300,684	25,006,760
Willamette River above Portland, Ore., and Yamhill River...	1,588,248	16,360,445
Other Columbia River tributaries.....	1,227,141	8,983,323
All others, Pacific Coast.....	5,907,969	35,812,753
<b>MISSISSIPPI RIVER SYSTEM:</b>		
Mississippi River, Minneapolis to the Passes.....	28,851,756	1,169,836,878
Ohio River.....	20,587,402	278,394,449
Monongahela River.....	15,327,885	75,232,230
Allegheny River.....	2,410,786	10,337,441
Kanawha River.....	3,332,777	13,687,639
Cumberland River.....	716,370	6,496,591
Tennessee River, Knoxville to Paducah.....	1,063,814	11,188,333
All others, Mississippi River System.....	8,660,581	189,078,687
<b>OTHER RIVERS (not tributary to Atlantic, Gulf, and Pacific Coasts):</b>		
Fox River.....	220,913	1,017,080
All others.....	40,920	152,462
<b>FEDERAL AND OTHER CANALS AND CONNECTING WATERWAYS</b>		
<b>Atlantic Coast:</b>		
Cape Cod Canal.....	3,524,119	194,053,455
Inland Waterway from Delaware River to Chesapeake Bay..	2,234,149	149,730,480
Waterways from Norfolk, Va.—		
To Sounds of North Carolina.....	214,704	4,394,279
To Beaufort Inlet, N. C.....	956,979	45,602,029
Waterway between Beaufort, S. C. and St. Johns River, Fla.	499,478	13,824,762
All others, Atlantic Coast.....	2,873,156	77,302,993
<b>Gulf Coast:</b>		
Intracoastal Waterway, St. Marks River, Fla., to Corpus Christi, Tex.....	6,589,933	141,331,321
All others, Gulf Coast.....	60,334,890	810,149,404
<b>Pacific Coast:</b>		
Lake Washington Ship Canal, Wash.....	1,595,750	10,934,294
All others, Pacific Coast.....	2,585,778	63,113,504
<b>Great Lakes:</b>		
Keeweenaw Waterway, Mich. (through traffic).....	117,326	7,965,518
St. Marys Falls (Soo) Canal.....	40,042,739	581,521,592
Sturgeon Bay and Lake Michigan Ship Canal.....	335,054	22,557,650
Detroit River (partial).....	21,784,105	286,916,640
All others, Great Lakes.....	6,809,411	182,818,000
All others of record.....	13,435	868,893
TOTAL, rivers, canals, and connecting channels improved by the Federal Government.....	298,270,697	\$5,611,214,605
<b>STATE AND PRIVATE CANALS</b>		
New York State Barge Canal System.....	4,709,488	224,797,863
Florida State Canals.....	161,888	1,263,580
Navigation Canal, New Orleans, La.....	1,866,907	211,288,916
All other State and private Canals.....	304,534	3,180,341
TOTAL, State and private Canals.....	7,042,817	\$440,530,700
GROSS TOTAL, ALL WATERWAYS OF RECORD.....	305,313,514	\$6,051,745,305
NET TOTAL, corrected for duplications because of commerce moving over two or more waterways.....	277,754,587	\$5,657,886,608

# WATERWAYS AND HARBORS

## COASTWISE COMMERCE AT PORTS (INCLUDING INTERCOASTAL)

	Tonnage Both Ways	Value
<b>ATLANTIC COAST PORTS:</b>		
Portland, Me. ....	2,515,777	\$ 53,345,938
Boston, Mass. ....	12,592,765	458,393,632
Providence, R. I. ....	4,403,332	390,391,682
New York, N. Y. ....	37,985,946	1,830,018,313
Philadelphia, Pa. (Philadelphia to the Sea) ....	21,070,410	580,274,764
Baltimore, Md. ....	6,671,504	261,477,101
Norfolk, Va. ....	11,979,644	393,636,804
Newport News, Va. ....	6,240,971	41,014,544
Wilmington, N. C. ....	1,312,836	25,407,027
Jacksonville, Fla. ....	1,968,424	132,723,584
All others, Atlantic Coast. ....	20,186,871	640,050,946
<b>GULF COAST PORTS:</b>		
Tampa, Fla. ....	2,261,917	60,615,966
Pensacola, Fla. ....	127,298	3,934,762
Mobile, Ala. ....	1,617,028	67,188,493
New Orleans, La. ....	5,708,831	280,988,516
Baton Rouge, La. ....	3,564,759	39,064,690
Galveston, Tex. ....	1,609,052	211,070,431
Texas City, Tex. ....	7,106,882	82,830,147
Houston, Tex. ....	16,269,463	398,583,274
Port Arthur, Tex. ....	14,437,610	184,480,505
Beaumont, Tex. ....	15,188,079	173,721,784
Corpus Christi, Tex. ....	5,095,462	78,089,848
All others, Gulf Coast. ....	11,931,403	136,178,762
<b>PACIFIC COAST PORTS:</b>		
Los Angeles, Calif. ....	11,905,459	696,712,250
San Francisco, Calif. ....	2,529,450	350,559,099
Other San Francisco Bay ports. ....	14,696,364	390,722,610
Portland, Ore. ....	3,939,571	210,260,272
Tacoma, Wash. ....	1,281,145	50,590,593
Seattle, Wash. ....	4,133,469	237,066,773
All others, Pacific Coast. ....	20,057,228	301,808,368
<b>NONCONTIGUOUS PORTS:</b>		
Ports of Puerto Rico. ....	1,450,459	127,755,031
Ports of Alaska. ....	383,425	56,961,733
Ports of Hawaii. ....	4,732,686	323,840,969
<b>GROSS TOTAL, COASTWISE COMMERCE AT ALL PORTS EXCEPT GREAT LAKES. ....</b>	<b>276,955,520</b>	<b>\$9,269,759,211</b>
<b>NET TOTAL, ALL PORTS, corrected for duplications of receipts and shipments. ....</b>	<b>138,477,760</b>	<b>\$4,634,879,606</b>

### COMMERCE THROUGH THE PANAMA CANAL

Fiscal Year	1 Intercoastal (Short tons)	Total (Short tons)
1930	11,174,429	33,633,860
1931	9,862,020	28,092,736
1932	7,417,742	22,184,958
1933	7,197,801	20,280,655
1934	9,877,602	27,684,889
1935	8,919,019	28,346,670

1936	8,645,364	29,686,562
1937	7,324,792	31,481,380
1938	7,161,924	30,672,235
1939	7,711,200	31,210,622

1 Included in coastwise figures.



## IX. DEFENSE AND ARMAMENT

### FOREIGN AND DOMESTIC COMMERCE OF PORTS, CALENDAR YEAR 1938

(Quantities Expressed in Short Tons)

Grand Divisions	Foreign			
	Imports		Exports	
	Tons	Value	Tons	Value
Atlantic Coast.....	26,295,593	\$4,020,745,805	13,608,159	\$1,654,023,923
Gulf Coast.....	4,513,711	155,547,535	26,593,430	679,999,886
Pacific Coast.....	3,076,480	348,082,161	15,274,127	491,706,837
Great Lakes.....	5,110,004	74,073,277	10,710,425	102,086,547
<b>GRAND TOTAL</b>				
Unadjusted.....	38,995,788	\$4,598,448,778	66,186,141	\$2,927,817,193
Adjusted, eliminating all known duplications.....	38,995,788	\$4,598,448,778	66,186,141	\$2,927,817,193

Grand Divisions	Domestic		Grand Total	
	Tons	Value	Tons	Value
Atlantic Coast.....	251,199,112	\$10,117,163,366	291,102,864	\$15,791,933,094
Gulf Coast.....	106,646,252	2,328,684,555	137,753,393	3,164,231,976
Pacific Coast.....	82,230,954	3,053,280,446	100,581,561	3,893,069,444
Great Lakes.....	155,392,830	2,486,867,516	171,213,259	2,663,027,340
<b>GRAND TOTAL</b>				
Unadjusted.....	595,469,148	\$17,985,995,883	700,651,077	\$25,512,261,854
Adjusted, eliminating all known duplications.....	343,640,223	\$10,452,713,460	448,822,152	\$17,978,979,431

Total water-borne commerce of the United States:  
Adjusted total, 466,900,000 tons; value, \$17,019,000,000.

## THE UNITED STATES NAVY

BY LELAND P. LOVETTE

COMMANDER, U.S.N.; PUBLIC RELATIONS OFFICER, NAVY DEPARTMENT

### EMPLOYMENT OF FORCES

**Basic Policy.**—The operation of the United States Naval forces during the fiscal year ended June 30, 1939 were directed toward the carrying out of the established basic policy, which is as follows: "To maintain the Navy in sufficient strength to support the national policies and commerce, and to guard the continental and overseas possessions of the United States." In all operations, forces have been disposed to operate with a minimum expenditure of funds as appropriated for the maintenance of the Navy.

**Objectives.**—In adhering to the

naval policy, the employment of forces has been effected with the following in view: (a) To exercise and train the units of the fleet to the highest state of efficiency; (b) to organize the Navy for operations in either or both oceans to the end that expansion only will be necessary in case of national emergency; (c) to protect American lives in disturbed areas; (d) to assist in evacuating American nationals from areas of especial danger; (e) to maintain uninterrupted communications with and for American nationals and for our diplomatic and consular establishments in the

## THE UNITED STATES NAVY

areas involved; (f) to cooperate fully with other departments of the Government and with the states; and (g) to cultivate friendly international relations.

**Organization.**—With the exception of the organization of the Atlantic Squadron, the ships of the Navy were maintained in substantially the same general organization as in the recent past; namely, the United States Fleet, the Asiatic Fleet, the Special Service Squadron, and the Naval Transportation Service. The Atlantic Squadron, United States Fleet, was organized in January, 1939 and includes the former Training Detachment, United States Fleet, in addition to certain other vessels. New ships completed during the year were fitted into the respective organizations and, in case they replaced old vessels, the latter were in most cases placed out of commission. Small craft of a more seagoing type were maintained for service in the naval districts and at the naval shore stations. Sixty-nine old type destroyers are being placed in commission for neutrality duty. The shore establishments of the Navy performed vital services in the mission of supporting the forces afloat.

### OPERATING FORCE AND PERSONNEL PLANS

**Purpose.**—The operations of the seagoing units of the Navy are, in their broad scope, planned far in advance. The principal plans upon which the operations are based are the Operating Force Plan and the Personnel Plan for the fiscal year concerned. These plans must be developed together, as they determine the number of ships that can be operated with the personnel that is available for their operation. When the amount of the funds appropriated for the year is known these two plans can be adjusted to close agreement and the contributory plans brought into harmony with them.

**Personnel.**—During the fiscal year 1939, the annual appropriation provided funds for a total enlisted strength of 110,100 men to man all ships and their attached or assigned

aircraft. The average enlisted strength of the Marine Corps was 18,000. The maximum practicable number of men was assigned to duty afloat. With this number of men all complements could not be filled, and allowances were therefore prescribed which made the best compromise that could be worked out, based on recommendations of the Commander-in-Chief and past experience. Ships which require full complements for their safe operation, such as submarines, were fully manned; other units were maintained near 85 per cent of their full peacetime complements.

**Ships in Commission.**—During the fiscal year 1939, 348 ships were operated at sea; of these 313 were in commission throughout the fiscal year and 35 were in commission for portions of the year. The number of small craft in service in naval districts and at shore stations was 194. In addition, four school ships were loaned to the States of New York, Massachusetts, Pennsylvania, and California for merchant training purposes. The total number of naval vessels of all types that were in service, including the state school ships, during the whole or part of the fiscal year, was 546. The ocean-going ships referred to above included 15 battleships, five aircraft carriers, 18 heavy cruisers, 18 light cruisers, 121 destroyers and light mine layers, 58 submarines, one mine layer, 11 patrol vessels and 99 auxiliary vessels of various types. Included among these were the following new ships, first commissioned during the year: one heavy cruiser, three light cruisers, eight destroyers, and four submarines. Ships placed in commission after varying periods out of commission consisted of one cargo ship and two mine sweepers.

**Ships Placed Out of Commission.**—The following ships were placed out of commission during the year: 11 destroyers and one river gunboat. These were stricken from the Navy Register during the year: 12 ships of various types, all of minor categories, whose age and material condition were such that they did not warrant retention and reconditioning.

## IX. DEFENSE AND ARMAMENT

### THE UNITED STATES FLEET

**Operations.**—The United States Fleet remained concentrated during the year, operating the greater part of the time in waters of the eastern Pacific. On Jan. 4, 1939, in accordance with schedule, the Fleet sailed from West Coast bases for the Canal Zone. The Fleet made a mass transit of the Canal on Jan. 13, 1939, and proceeded to base in the Guantanamo-Culebra area. Basic training of type units had been continuous in the eastern Pacific with fleet tactical exercises in which all types participated for the coordination and training necessary to fight a fleet action. These exercises led to Fleet Problem XX which was conducted in February and March in the Caribbean area and off the northeast coast of South America. The latter phase of the problem was witnessed by the President of the United States and the Chief of Naval Operations. In April, the Fleet proceeded to the Hampton Roads area, cruisers and destroyers visiting Gulf and South Atlantic United States ports. The scheduled visit of the Fleet to attend the opening of the World's Fair at New York was suddenly cancelled, and the Fleet departed for West Coast bases April 20. The Atlantic Squadron took part in Fleet Problem XX and conducted Fleet Landing Exercise Number 5 in the Culebra area. Certain vessels of the Fleet were detailed to train naval reserves and Naval Reserve Officers Training Corps Units on the West Coast. The Atlantic Squadron operated during the year in Atlantic waters, making cruises with naval reserves, Naval Reserve Officers Training Corps Units, and midshipmen. The midshipmen's practice cruise for 1938 was made by three battleships to foreign ports. The cruise for 1939 was made by three battleships to United States and Canadian ports.

**Tactics.**—Tactical exercises were held periodically during the year by all units of the Fleet. Progressive advances were made in the training of the various types. The advance phase of this training was provided for by periodic exercises and minor

problems of the Fleet as a whole and climaxed by the annual large-scale Fleet Problem. Considerable advance was reported in the capabilities of the Fleet as a whole. The general operating areas of the Fleet with the bases on one coast and in proximity to each other has afforded the maximum opportunity for tactical training and indoctrination between types. The continuous and regularly scheduled training was of great value to the new ships joining the Fleet in considerable numbers.

**Gunnery.**—The most important part of all Fleet programs and schedules is the continuous and active training in the use of all weapons. All ships and airplanes in active commission conducted gunnery exercises with their respective weapons, following a schedule for progressive training for war. The results were satisfactory, and gunnery technique was considerably advanced. Gunnery and torpedo schools, held on designated ships at the beginning of the year, demonstrated their usefulness in extending primary training for officers and men. San Clemente Island, off the southern coast of California, is under the jurisdiction of the Navy Department. This island is used for small arms firing, machine-gun exercises, and an aircraft bombing range.

**Engineering Performance.**—The engineering department of each ship in the Navy is subject to the observance of strict rules for the purpose of competition and for providing accurate data to insure uniform good practice, close attention to detail and rigid economy. All vessels in full commission participated in the engineering performances to the fullest extent compatible with their special employment. The reliability of the vessels was stressed in order that any inherent weaknesses in the engineering plant could be discovered and corrected. The reports of performance and reliability were of great assistance to the material bureaus of the Navy Department as a compendium of valuable logistic data and provided a basis for intelligent analysis.

### AVIATION

**Aircraft.**—On June 30, 1939 the Navy had 1,929 airplanes on hand, of which 1,528 were service planes, 53 obsolescent, 311 obsolete, and 37 experimental. The U.S. Naval Reserve had 147 service planes and 22 obsolete. The U.S. Marine Corps had 145 service planes. In all services there was a total of 2,243 planes. The closest cooperation marked the training of aircraft with surface craft. Aviation remains an integral part of the Navy and the high efficiency of naval aviation is attributed to the training of seagoing aviation personnel under naval administration. The aircraft carriers of the Fleet, with their attached airplane squadrons, and the patrol plane squadrons have participated in all Fleet tactical exercises and the major Fleet Problems.

**Flights.**—During the year Navy aircraft took part in the following special and notable flights:

- (1) On Sept. 7, 1938, seventeen patrol planes, comprising Patrol Squadron 4 and five spare airplanes, were ferried non-stop from San Diego to Pearl Harbor.
- (2) On June 28, 1939, fifteen patrol planes of Patrol Squadron 1 were ferried non-stop from San Diego to Pearl Harbor.
- (3) Presidential mail was delivered by patrol airplanes from Miami to various points in the Caribbean during the cruise of the President in the *Houston* in connection with Fleet Problem XX.
- (4) VMF Squadron 1 of the First Marine Aircraft Group, Quantico, participated in the National Air Races at Cleveland, Sept. 3-5, 1938.
- (5) Forty-eight patrol airplanes of Patrol Wing One departed from San Diego for Coco Solo, non-stop, and arrived at their destination in one day. From Coco Solo the wing flew to San Juan, Puerto Rico, and while based in that vicinity participated in Fleet Landing Exercises

Number Five and Fleet Problem XX. After completion of the Fleet Problem, Patrol Wing One proceeded non-stop from San Juan to Norfolk, Va. and while on the East Coast participated in a Joint Air Exercise off the New England Coast, basing at Newport for that purpose. Two squadrons of this wing were retained on the East Coast; the remaining two returned to San Diego by way of Guantanamo, Coco Solo and the Gulf of Fonseca. Exclusive of distance flown in connection with the Fleet Problem, Patrol Wing One covered a distance of over 10,000 miles on its cruise.

### THE ASIATIC FLEET

Ships of the Asiatic Fleet performed their normal functions with the exception of incidents resulting from the undeclared war in China. Ships were employed on the Yangtze River, in northern and southern China ports, carrying out regular gunnery exercises and making cruises to the southern Philippines, French Indo China, and East Indian ports.

Admiral H. E. Yarnell was commended for the marked distinction with which he served as Commander-in-Chief, U.S. Asiatic Fleet, in the protection of American national policies and possessions.

The Fourth Regiment of the Marine Corps, consisting of 51 (includes two Warrant officers) officers and 998 enlisted men, was maintained at Shanghai. It performed guard duty on assigned stations in Shanghai and carried out its program of training. The Marine Corps also maintained the Embassy guard at Peking as in previous years. The strength of this detachment was 19 (including two Warrant officers) officers and 311 enlisted men.

### SPECIAL SERVICE SQUADRON

The ships of the Special Service Squadron were employed during the fiscal year in their usual area of operations in Central American waters. The normal base is the Panama Canal



## IX. DEFENSE AND ARMAMENT

Zone, and here the Squadron based throughout the year, conducting training exercises as prescribed. During the year courtesy visits were made to Honduras, Nicaragua, Costa Rico, and Mexico. A visit was also made to Galapagos and Cocos Islands.

### SQUADRON FORTY (TEMPORARY)

In September, 1936, a special temporary squadron, consisting of a light cruiser and two destroyers, was despatched to Spanish and French waters to assist in the evacuation of American nationals in the Spanish War area. The squadron continued in operation in the Mediterranean, basing upon French ports.

### NAVAL TRANSPORTATION SERVICE

The Naval Transportation Service is maintained for the purpose of caring for a part of the Navy's needs for water transport of personnel and supplies. The ships assigned to this purpose have been operated for purposes for which commercial shipping facilities could not be used advantageously, on account of either the route involved or because of the character of the cargo carried. Mine vessels were permanently assigned to this Service throughout the fiscal year 1939. There were two transports, three cargo carriers, three oilers, and one ammunition ship. In addition, one new oiler was acquired and commissioned for service during the greater part of the year.

The auxiliary-cargo ship *Vega*, in July-August, 1938, made the annual voyage to the Pribilof Islands for the purpose of transporting personnel and supplies to government agencies in that area and of returning with the yearly shipment of seal skins, from the government-supervised catch. This has been a mission of the Navy since 1927.

In September, 1938, the *Sirius* towed the ex-army dredge *Hell Gate* from Pearl Harbor to Midway. In June 1939, the *Vega* towed the Army dredge *Sacramento* from San Francisco to Midway.

### NAVAL INTELLIGENCE

The Office of Naval Intelligence is an agency for the collecting, evaluation, and dissemination of information of value to the Navy. It administers the work of naval attaches and naval missions abroad, maintains the Navy Department's public relations branch, and supervises the Department's library and historical records. These activities were continued during the fiscal year 1939 without essential change. Naval attache offices were opened during the year at Brussels, Mexico City, Havana (accredited also to Dominican Republic), and the Hague. A naval mission was established in Colombia.

Relations with the press, allied publicity agencies, and civilian organizations were cordial and satisfactory. Special effort was made to reply promptly to all queries and to supply the American public with factual information about the Navy as fully and promptly as practicable.

The Navy Department library continued its work of classifying and indexing naval records, of publishing historical and naval documents, and of assembling pictorial records. During the year the library added 1,067 books and documents to its collection, bringing the total to about 86,594. The library continued in its research work of complying with requests for information from other departments of the Government and the public.

### NAVAL COMMUNICATIONS

**Shore Radio Stations.**—Thirty-six naval radio traffic stations were in active commission during the past fiscal year. Five such stations were maintained in an inactive status. Thirteen United States missions abroad have maintained radio receiving sets for the purpose of copying the State Department bulletins broadcast daily from the Naval Radio stations at Washington and Cavite.

The new receiving station of Radio Washington, located at Cheltenham, Md., was placed in commission April 3, 1939. A temporary radio station was maintained on Swan Island during the period Aug. 24 to Nov. 14,

## THE UNITED STATES NAVY

1938. This station was established as an emergency measure by the Navy for the use of the Weather Bureau during the hurricane season.

The total traffic handled by the Naval Shore Radio System during the year, including relays, is estimated to have been 182,810,098 words. Some 29,782,730 original words were filed with the Naval Communication System for transmission for all government departments and agencies, saving charges which would otherwise have accrued against the Government if naval communication facilities had not been available. It is estimated that about 48 per cent of this traffic was for government agencies other than the Navy.

**Direction Finder Stations.**—Thirty-five radio direction finder stations were in active commission during the year, excluding those permanently closed during the year. The radio direction finder station at Cape Hinchinbrook, Alaska, was permanently closed Oct. 2, 1938. The need for this station ended when the Department of Commerce established a radio beacon there.

During the year about 173,871 bearings were furnished to 68,001 vessels of all classes, including 19,495 foreign merchantmen, 44,163 U.S. merchantmen, and 4,343 U.S. naval vessels.

**Time Signals.**—The Naval Observatory, Washington, D.C., and the Manila Central Observatory broadcast daily time signals through naval radio stations. The former, by means of radio control and a crystal clock at Mare Island, controls the broadcast of time from the radio stations at Washington, San Francisco, Oahu, and Balboa. Considering that several frequencies were simultaneously employed on most of these broadcasts, there were a total of 26,033 time signals broadcast by naval radio stations during the year.

**Weather and Hydrographic Information.**—Daily broadcasts of weather are made from 26 naval radio stations. Twenty of the stations transmit daily, or as required, bulletins of hydrographic information. Naval radio facilities are also employed to assist the Weather Bureau

and Hydrographic Office in collecting information on which their broadcasts are based.

### **Handling of Commercial Traffic.**

—The Navy accepts commercial telegrams only where private facilities are not available. During the fiscal year ended June 30, 1939, there was deposited in the Treasury of the United States to the credit of "Miscellaneous Receipts" by the Naval Communication Service the sum of \$35,000 as earnings on commercial radiotelegrams.

### **Fleet Communications (Radio).**—

A high standard of fleet communications has been maintained with emphasis on the military phases of communications. The status of radio material in the Fleet has improved. New ships have been equipped with modern and excellent radio installations. Modernization of the radio equipment on older ships has progressed according to plans. The number of officers experienced in communications has been augmented by those completing technical and practical courses of instruction at the Postgraduate School. The total number of radiomen in the Service was increased by 296 during the fiscal year. Visual communications by flag-hoist, semaphore, and flashing light between naval and merchant vessels have been continued as a part of the training program.

### **Naval Communication Instructions.**—

During the year the publication entitled "Naval Communication Instructions, 1929" was completely revised and is being reprinted as "Naval Communications Instructions, 1939."

### **Naval Communication Reserve.**—

The expansion and communication training of the Naval Communication Reserve has made satisfactory progress during the year. There are now 30 Reserve Radio Control stations equipped with government-owned transmitting and receiving equipment. The enlisted personnel has increased from 4,926 men to 5,082 men. Of this number, approximately 350 are of the signal branch. The Communication Reserve Competition for the fiscal year 1939 was won by the Twelfth Naval District. Attendance

## IX. DEFENSE AND ARMAMENT

at radio drills by the Reserve Control stations averaging 97.78 per cent for the year. The training circuits were controlled from Radio Washington and Radio San Francisco and, in addition to giving training in operation and naval communication procedure, were used for the transmission of problems in navigation, tracking, mooring board, and frequency searching. During the year the Communication Reserve rendered excellent service in connection with local emergencies during storms, especially during the time of disruption of communications in New England following the hurricane of September, 1938.

**Navy Department Communication Office.**—During the fiscal years 1930 to 1939, inclusive, the Washington District handled words of traffic as indicated below:

1929-30 .....	19,958,940
1930-31 .....	25,149,630
1931-32 .....	28,805,137
1932-33 .....	28,187,352
1933-34 .....	30,136,035
1934-35 .....	26,947,224
1935-36 .....	30,189,345
1936-37 .....	33,804,414
1937-38 .....	42,005,127
1938-39 .....	40,406,352

### TECHNICAL DEVELOPMENTS

During the year the Technical Division continued the program of creating an emergency reserve staff of men of outstanding achievement in civilian research. The scope of work for the present organization has been enlarged in order more competently to carry out an effective liaison between the naval service and the vast research resources of the country, and to provide a central agency through which the Chief of Naval Operations may be kept informed of the progress of technical research and technical developments both within the Navy and in civilian activities.

The Technical Division maintains liaison with numerous laboratories and industrial concerns. The coordinated effort of the Navy and National Research Council with leading civilian men of science will be of great value in time of war.

Inventions and ideas submitted from the United States and from Europe which appear to have merit or may fill a necessity are investigated and referred to a technical bureau for further consideration. This division collaborates with other government activities in developing a plan of allocation of ultra-high radio frequencies.

### OPERATIONS OF THE MARINE CORPS

The operations of the Marine Corps, as an integral part of the Navy, have been directed towards the accomplishment of the following purposes, in support of the approved naval policy: (a) to provide adequate and trained Marine detachments on board vessels of the Navy; (b) to maintain the Fleet Marine Force in immediate readiness as a tactical unit of the United States Fleet; (c) to protect naval property and shore establishments within the continental limits of the United States and in outlying possessions; (d) to protect American lives and interests in disturbed areas involving operations ashore.

In effecting the above purposes, Marine detachments were maintained on board 55 ships, these detachments totaling 130 officers and 2,962 enlisted men. The First Marine Brigade, Fleet Marine Force, carried out an extensive training program at its bases and by participation with other units of the Fleet in the Fleet Landing Exercise No. 5. The Second Marine Brigade, Fleet Marine Force, participated in landing exercises at San Clemente Island. The Fleet Marine Force, exclusive of aviation, consisted of 190 commissioned officers, 16 warrant officers, and 3,422 enlisted men. The Marine Corps at the end of the fiscal year consisted of 1,207 commissioned officers, 147 warrant officers, and 18,000 enlisted men.

### THE SINKING OF THE *SQUALUS*

The *U.S.S. Squalus*, with five officers, 51 men, and three civilians, while making a trial, sank 240 feet to the ocean bottom, about six miles off the coast of New Hampshire and five



## NAVAL CONSTRUCTION AND EQUIPMENT

miles south of the Isle of Shoals at 8:40 a.m. daylight saving time, May 23, 1939.

The *Squalus*, commanded by Lieutenant Oliver F. Naquin, had dived to 50 feet and was straightening out horizontally when notified that water was coming in. It transpired that a 31-inch valve, which supplies air to crew and combustion to four Diesel engines when the submarine is on the surface, had failed to close when submerged. The four after compartments were flooded. Ballast tanks were blown but insufficient to obtain positive buoyancy to offset the dead weight of the flooded compartments. The entire interior would have been flooded had it not been for the quick and courageous action of a member of the crew who closed a watertight bulkhead door.

The submarine *Sculpin* went to investigate when the *Squalus* had failed to surface after a reasonable time. A smoke bomb was alight on the surface and a marker buoy released from the *Squalus* with telephone connection marked the spot of the sunken ship. Rescue vessel, *U.S.S. Falcon*, arrived May 24 from New London, Conn. Navy divers and experts on salvage and rescue work were rushed from Washington and other points.

At 10:15 a.m. May 24, the first diver from the *Falcon* heard men tapping on the hull of the submarine, and secured the down haul line of the rescue chamber to the forward escape hatch of the *Squalus*. In one hour's time the rescue chamber was in place on the sunken submarine.

All adjustments were made; seven men entered the chamber and were brought to the surface. This marked the first time that a rescue chamber was used to save life. Three more descents were made to bring to the surface the 33 men known living aboard the *Squalus*. On the last trip with Lieutenant Naquin and seven men the downhaul cable jammed. Divers in great peril cut the downhaul cable and the rescue chamber was then hauled up by hand after three hours and 48 minutes.

The rescue chamber is a pear-shaped structure weighing nine tons, with a height of 10 ft. and a maximum external diameter of 7¾ ft. The bottom rim has a rubber gasket that serves to make a watertight seal between the chamber and an apron that surrounds each escape hatch on the deck of the submarine. The chamber is divided internally into one large upper compartment and a smaller lower compartment surrounded by a water ballast tank.

Salvage work under Rear Admiral Cyrus W. Cole, U.S. Navy, and Captain R. E. Edwards, U.S. Navy, commenced immediately. Great difficulties were encountered with the stern deeply embedded in the mud, but by tunnelling, placing chain slings beneath, and with pontoons, the *Squalus*, of 2,000 tons submerged displacement, was brought to the dock at the Navy Yard at New London on Sept. 13, 113 days from the time she left. Despite hazards for divers and salvage workers, not a man was injured. The *Squalus* will rejoin the Fleet after overhaul.

## NAVAL CONSTRUCTION AND EQUIPMENT

BY PETER BAIN

NAVAL CONSTRUCTION CONSULTANT

### UNITED STATES NAVAL POLICY AND PROGRAM

Of the five world naval power leaders that participated in formulating treaty-making restrictions bearing upon armament construction, the United States and Great Britain can

alone be credited with consistent adherence to the high purpose and concept objectively sought. That these two nations have gone hand in hand, so to speak, in the various efforts that have been made to limit naval armament output throughout the world, it



## IX. DEFENSE AND ARMAMENT

by no means follows that their every point of view coincides or that parity of their combatant categories may never fluctuate. During 1939, each has been meeting and taking care of its own necessities and obligations. In view of divergence of status relative to world affairs, while Great Britain may be the international pace-maker and spender on armament production, she is acting so with the full awareness of the United States Navy Department under a clause of the London Treaty of 1936 which provided for a frank exchange of combatant vessel construction plans by all adherent naval powers. Neutrals, however, as well as belligerents have interests to protect and rights to assert; therefore, as a wise guardian of its interests and rights, the United States during the past 12 months has been pursuing a policy of naval armament upbuilding anticipatory of all threats or eventualities that may develop. No other policy would appear commensurate and convincing, particularly so when belligerent activity has spread over the broad expanse of oceans to the inconvenience and detriment of neutrals engaged in overseas trade. As the year 1940 dawned, our naval status was summed up in the annual report of the Secretary of the Navy which stated that "the battle efficiency of the United States Fleet fully measured up to the confidence reposed in it by the citizens of our country in whose service it is dedicated. The Navy is prepared to exercise its vital functions of bringing the enemy to our terms as quickly as possible, while keeping him at a safe distance from our shores."

During the fiscal year ended June 30, 1939, for the orderly replacement of over-age vessels and aircraft and for the orderly addition to existing strength, authorized by the Act of May 17, 1938, new construction was continued so as to bring our naval fitness up to that authorized by the Vinson-Trammell Act of 1934 and the Naval Expansion Act of May 17, 1938. Work was begun on two capital ships, two cruisers, eight destroyers, and six submarines, all provided for

in the Naval Appropriations Act of April 4, 1938. In addition, work was also begun on two capital ships, one aircraft carrier, and two cruisers provided for in the Second Deficiency Act of June 25, 1938. The 1940 Appropriation Act contained funds for the start of further replacements and the addition of two capital ships, two cruisers, eight destroyers, and eight submarines. This act also provided funds for the modernization of the aircraft carriers *Lexington* and *Saratoga*. For modernization of the submarines *Argonaut*, *Nautilus*, and *Narwhal*, authorization was procured through the Act of April 20, 1939. The two capital ships scheduled for construction through funds provided by the 1940 Naval Appropriation Act will each be of 45,000 tons displacement, a protocol having been signed on June 30, 1938, by the United States, Great Britain, and France providing for a new 45,000 displacement tonnage limit instead of the 35,000 displacement tonnage limit embodied in the London Treaty of 1936. Recommendations and decisions as to the displacement tonnage of future capital ships will necessarily depend on what best meets the requirements of our national security. In view of the threatening international situation it is not improbable that our present and continuous orderly program of navy betterment and upbuilding may have to be accelerated.

### NAVAL AUXILIARY CONDITIONS

In the somewhat broad and more or less all-inclusive category of naval auxiliaries, conditions are not as satisfactory as they should be, according to the annual report of the Secretary of the Navy, and the situation is unlikely to be ameliorated until replacements now authorized have been completed and additional authorizations and appropriations have been obtained. Most auxiliaries now in commission are slow and over-age and, due to the special construction required, also the equipment facilities for naval service, replacements could not be immediately available from the merchant marine fleet. To meet the demands of our expanding

## NAVAL CONSTRUCTION AND EQUIPMENT

combatant fleet, more auxiliaries of varied type, in addition to replacements, are likely to constitute a needful requirement of early future planning. During the fiscal year 1939, work was started on one submarine tender, one fleet tug, and one mine sweeper, for which funds were provided in the Appropriation Act of April 26, 1938. Work also was started on two fleet tugs, one mine sweeper, one destroyer tender, one large seaplane tender, two small seaplane tenders, and one mine layer, for which funds were made available in the Second Deficiency Act of June 25, 1938. One oiler placed in commission, for which funds were provided by the Appropriation Act of April 26, 1938, was obtained from the United States Maritime Commission. Two oilers appropriated for in the Second Deficiency Act of June 25, 1938, were scheduled on completion to come from the same source. Two additional small seaplane tenders and one repair ship are listed for construction through funds provided by the Naval Appropriation Act of 1940. Legislation was pending for the acquisition of two merchant ships, one to be converted for survey purposes as replacement for the *Hannibal* and the other for service as a cargo transport in connection with our base-development program. To the extent that a program can be developed without jeopardizing immediate demands, requests for authorizations and funds will be made on the basis of an orderly replacement and additions schedule in the auxiliaries category.

With funds provided in the Second Deficiency Act of June 25, 1938, work was started on four experimental submarine chasers and eight motor-torpedo boats belonging to the program covering small experimental craft. The number of ships in commission and operated at sea included 15 in the capital category (three in reduced commission), 18 heavy cruisers, 18 light cruisers, 121 destroyers and light mine layers (23 in reduced commission), 58 submarines, five aircraft carriers, one mine layer, 12 patrol vessels, and 100 auxiliaries

of all types. Included in the foregoing are the following new vessels commissioned during the year: one heavy cruiser, three light cruisers, eight destroyers, four submarines, two aircraft carriers, and one oil tanker. Other craft placed in full commission were two mine sweepers, one cargo vessel, and one harbor tug. Commissionings recorded since the close of the fiscal year ended June 30, include the 10,000-ton light cruiser *Helena*, the destroyers *Hammann* and *Mustin*, and the submarines *Spearfish* and *Seawolf*, the latter a sister ship to the ill-fated *Squalus* which sank in 240 feet of water off Portsmouth, N.H., while making a scheduled dive.

### NAVAL CRAFT UNDER CONSTRUCTION

On July 1, 1939, a total of 105 vessels were under construction in government navy yards and private shipyards throughout the United States. In the aggregate, all categories of combatant craft and miscellaneous types of auxiliaries were included. For the first time in many years, capital ships made an impressive showing with eight such units, representing the *North Carolina*, *Washington*, *South Dakota*, *Indiana*, *Massachusetts*, *Alabama*, *Iowa*, and *New Jersey*. Concerning the others, two were aircraft carriers, five light cruisers, 42 destroyers, 20 submarines, two destroyer tenders, two large seaplane tenders, four small seaplane tenders, one submarine tender, two mine sweepers, three fleet tugs, one mine layer, two oilers to be purchased from the United States Maritime Commission, three submarine chasers, and eight motor-torpedo boats. Of ships under construction on July 1, 1938, deliveries to the Government from private shipyards included the three light cruisers *Pheonix*, *Boise*, and *St. Louis*; the submarines *Sargo* and *Saury*, the 1850-ton destroyers *Sampson*, *Davis* and *Jouett*; the 1500-ton destroyers *Benham*, *Ellet*, *Lang*, *Maury* and *Anderson*. Relative to the eight new capital ships under construction, the *North Carolina* and *Iowa* are at the New York Navy

## IX. DEFENSE AND ARMAMENT

Yard; the *Washington* and *New Jersey* at the Philadelphia Navy Yard; the *Alabama* at the Norfolk Navy Yard; the *South Dakota* at the New York Shipbuilding Corporation Yard at Camden, N.J.; the *Indiana* at the Newport News Shipbuilding and Dry Dock Co. Yard; and the *Massachusetts* at the Bethlehem Steel Co. Yard at Quincy, Mass.

On Jan. 30, 1939, a supplemental contract was entered into with the Newport News Shipbuilding and Dry Dock Co. for the supply of auxiliaries, equipment, and special material for the *Alabama* under construction at Norfolk, being a duplicate of that scheduled for installation on the *Indiana* building at Newport News. On March 7, 1939, contracts were awarded to the Federal Shipbuilding and Dry Dock Co. at Kearny, N.J., for construction of the light cruisers *Atlanta* and *Juneau*, and to the Bethlehem Steel Co., Quincy, Mass., for the light cruisers *San Diego* and *San Juan*. On March 30, 1939, contract was awarded to the Newport News Shipbuilding and Dry Dock Co. for construction of the aircraft carrier *Hornet*. On May 1, 1939, a supplemental contract was entered into with the Federal Shipbuilding and Dry Dock Co. for furnishing all services and materials in connection with research and engineering necessary for the design and production of all plans, booklets, material schedules, etc., necessary to construct and complete the light cruisers *Atlanta*, *Juneau*, *San Diego*, and *San Juan*. On the same date, a supplemental contract was entered into with the Bethlehem Steel Co. for furnishing all services, labor, and materials, in connection with making the light cruisers *San Diego* and *San Juan* duplicates of the *Atlanta* and *Juneau*. On June 1, 1939, contracts were awarded the Bath Iron Works Corporation, Bath, Me., for construction of the 1630-ton destroyers *Woolsey* and *Ludlow*, and to the Federal Shipbuilding and Dry Dock Co. for construction of two sister destroyers, the *Edison* and *Ericsson*. On the same date, contracts were awarded

the Electric Boat Co., Groton, Conn., for construction of the submarines *Gar*, *Grampus*, and *Grayback*. These submarines are of 1475-ton rating. Contract for the 800-ton submarine *Mackerel* was scheduled to be awarded to the Electric Boat Co. but was held up pending completion of a satisfactory test of its proposed type engine.

Among the construction allocations to navy yards were the two 45,000-ton displacement capital ships, four destroyers, three 1475-ton submarines, one 800-ton submarine, and two small submarine tenders. For construction of the 8,350-ton repair ship *Vulcan*, the New York Shipbuilding Corporation of Camden, N.J., submitted a low bid of \$13,997,000. Relative to the construction of two more light cruisers, bids were expected to be opened about Nov. 1. A month later, intimation was made by the Navy Department that this procedure had been postponed until Jan. 31, 1940. The delay in contracting for the construction of these vessels—*Cleveland* and *Columbia*—had been the subject of considerable speculation. Until Dec. 1, it was believed that the two cruisers would each be of 8,000 tons displacement. Instead, they will be of 10,000 tons displacement and probably the fastest of their category afloat. Under the London Treaty, a light cruiser is defined as a vessel of not more than 10,000 tons displacement, mounting 6-inch caliber guns. On the other hand, a heavy cruiser is of the same tonnage, but mounting 8-inch caliber guns. Queries as to whether the new ships would be of the German "pocket" capital ship type were discounted at the Navy Department. The law providing for their construction stipulates that they be of the light cruiser category. New construction of combatant craft being undertaken at the year end, together with that previously authorized and appropriated for, still left the United States in completed under-age destroyers and submarines, considerably below the strength permitted by the Washington and London Naval Treaties in vessels of these categories.



## NAVAL CONSTRUCTION AND EQUIPMENT

### MOTOR-TORPEDO BOAT AND SUBMARINE CHASER DEVELOPMENT

On March 29, when announcing the winners in the competition for designs of small craft embracing two classes of motor-torpedo boats and two classes of submarine chasers, Secretary of the Navy Swanson used the occasion to intimate that the Navy Department's interest in these vessels would take a practical turn in the direction of actual construction and that a building program would soon be initiated to test out design ideas obtained from the competition as well as the design development carried on independently by our navy authorities. In order further to develop the personnel skill of private boatbuilding yards, it was disclosed that nearly all of the experimental types would be constructed on a private contract basis. Forty-one American boatbuilders competed. For development of this arm of the new service \$15,000,000 was provided in the billion dollar or more authorization bill. Competitors were first required to submit preliminary designs in sufficient detail to enable the Navy Department to form a judgment of their possibilities, and from which were selected those best suited for detailed development. Awards were allocated for 54-ft. Motor-Torpedo Boats, 70-ft. Motor-Torpedo Boats, 110-ft. submarine chasers, and 165-ft. submarine chasers.

Vessels of these classifications, it may be noted, are included in the under-construction detail. Just what part vessels of the foregoing ratings are playing in the naval warfare being waged on the high seas remains anybody's guess; nevertheless, it may be taken for granted that a good deal of significance attached to the announcement by the Acting Secretary of the Navy on Dec. 9 of an extensive experimental program to test the efficacy of fast motor-torpedo boats and motor-boat submarine chasers for inshore defense. It was further intimated that a contract had been placed with the Electric Boat Co. of Groton, Conn., for the construction of 11 torpedo boats and 12 submarine

chasers on the basis of designs perfected by Hubert Scott-Paine of the British Power Boat Co. Naturally, the precise specifications for the little vessels are being kept a close secret. Speeds up to 50 miles an hour are probable. That they will vary in length is also probable, the range extending from about 60 feet to about 170 feet. The announcement on behalf of the Navy Department also indicated that it was hoped a thoroughly satisfactory high-speed military motor boat of American design would be developed from those now under construction, but to develop a prototype for mass production, if that should become necessary, both American and British craft are to be used in experiments for that purpose. The military motor boat received considerable attention during the world war and still does. The contract for the 23 units involves a cost in the neighborhood of \$5,000,000. The little vessels are expected to be employed in the first instance in reinforcing the neutrality patrol. The then Acting Secretary of the Navy Edison stressed the fact that, although the designs were British, the engines and material constituents would be produced in the United States and the boats would be built by American labor.

### NAVAL EXPENDITURE, CURRENT AND PROJECTED

Early in March, 1939, the United States naval expense account for the fiscal year 1938 was completed and transmitted by the Secretary of the Navy. This imposing expense volume, believed to be a model for all business enterprise, governmental or private, consists of 86 pages of itemized tables so arranged that no explanatory text is necessary. Each item tells its own story completely and understandingly. With the exception of that of the emergency relief agencies, this expense account is the Government's largest. The property investment of the United States Government in its navy had at the close of the fiscal year 1938 reached a total in excess of \$3,500,000,000, with the certainty that before the end of



## IX. DEFENSE AND ARMAMENT

the fiscal year 1940, it will exceed \$4,000,000,000. Of this amount, about \$2,000,000,000 will apply to combatant craft construction and equipment. Since and including the fiscal year 1794 when the naval bill totalled \$768,888, the total cost of the navy up to and inclusive of the fiscal year 1938 had been \$16,634,002,603.29. Of this, \$13,032,828,842.16 has been spent since 1917, the year the United States entered the World War. About \$7,000,000,000 of the latter amount was spent during the Wilson Administration and \$3,000,000,000 during the present Administration. The huge increase in war vessel construction since the close of the World War is vividly pictured when cost of the capital ships now in the fleet is compared with the cost of the six 35,000-ton vessels under construction. So it goes all the way down the combatant ship line to the auxiliaries and, concurrently to labor, materials of construction, and commodity essentials.

When President Roosevelt on May 25 signed the \$773,049,151 Naval Appropriation Bill, the largest in peace time, the way was cleared for the navy to speed up its expansion program. That it did so should be abundantly clear from the new construction detail already indicated. Peacetime record as it may be, the 1940 Naval Appropriation Bill is likely to suffer much in comparison with that being formulated for the fiscal year 1941. Adequacy of the existing program, when completed, to supply the necessary defense against enemy attack off our shores is the pivot on which centers the Naval Appropriation Bill of 1941. President Roosevelt is credited with being doubtful of the adequacy of the existing program. Admiral William D. Leahy, retired chief of naval operations, on July 30, declared that in the event of the United States being forced into war with a major naval power, the American naval policy must be that of offense. He believes that the fleet, including units under construction, will make impossible an attack in force against the United States by any navy in the world,

basing his contention on the supposition that, in the event of hostilities involving a first class naval power, the American fleet takes the offensive and, by so doing, seeks the enemy fleet wherever it may be, and sinks it before it can come within striking distance of our shores. Speed in the construction of ships and the provision of adequate bases—air, destroyer, and submarine—are in his opinion essentials under existing world conditions.

In an address in Philadelphia on Jan. 11, 1939, at a luncheon of the Navy League of the United States, Admiral Leahy claimed that a gigantic two-ocean navy was then unnecessary. Much, however, had transpired in the interval to Dec. 31. An executive declaration by the Navy League of the United States, made on Sept. 24, insisted that the time had come when this country should have a two-fleet navy adequate to protect American interests any time and anywhere on the seven seas. On Oct. 28, proposals to strengthen the Atlantic Squadron of the United States Fleet were understood to be shaping for action among members of the House Naval Committee. Chairman Vinson indicated that he would be ready with a legislative program in the near future, while other members talked of possibilities ranging from minor reinforcements for the Atlantic Squadron to that of the two-ocean project. Representative Mott of Oregon expressed belief that Congress would authorize additional vessel construction to meet the situation on the Atlantic. Representative Bates of Massachusetts, through information received direct from the Navy Department, intimated that the cost of doubling the navy, advocated by a number of Congressmen during debate on the Neutrality Bill, would be \$4,344,410,000. Talk, too, was current in authoritative quarters that the navy might declare a year's "holiday" on capital ship construction and concentrate on the building of fast and powerful cruisers and destroyers. The crowded condition of our shipyards was given as the primary reason. Further point

## NAVAL CONSTRUCTION AND EQUIPMENT

was added to this situation through the knowledge that, even if the 1940 Congress voted funds for additional capital ships, they could not be started for at least a year. To all appearance, however, undiminished confidence in official circles still reposes in the capital ship as the backbone of naval power.

### CONSTRUCTION PROJECTS

A bill bearing the approval of President Roosevelt and providing for construction of 95 combatant craft, embracing three aircraft carriers, eight cruisers, 52 destroyers, and 32 submarines, was scheduled for introduction at the session of Congress in January, 1940. The appropriation to be sought amounts to around \$1,300,000,000, and completion of the program will increase the fighting effectiveness of the navy by bringing its fleet strength to about 2,100,000 tons. The bill further provides for a maximum naval air strength of 6,000 planes, 36 lighter-than-air craft, and 21 auxiliary vessels. Tonnage of the new combatant units provided in the bill ranges around 400,000, and that of the auxiliaries around 125,000, these embracing aircraft tenders, destroyers and submarine tenders, and repair ships. The bill leaves it to the discretion of the President to distribute the 400,000 tons of combatant craft among the categories stipulated, the total tonnage in each category to be the amount determined by the President as in the best interests of national defense. Representative Vinson who will pilot the bill through the House has indicated that the authorizations will create for the United States a fleet having an under-age strength in 1944 of 15 capital ships, 59 cruisers, 11 aircraft carriers, 173 destroyers, 87 submarines, 6,000 airplanes, 36 lighter-than-air craft, and 21 auxiliaries.

The bill does not provide for what is generally termed a two-ocean navy. It is believed, however, that it does provide for a navy adequate to defend the United States from any single aggressor nation, while not providing for a navy powerful enough to guarantee protection against combi-

nations of other navies. Interest in the absence of any capital ship provision in the program elicited the information that the eight now under construction would ensure an adequate first line. It was pointed out that some ships now in commission will be over-age in 1944, but most or all of the over-age ships could be kept in readiness for emergency service. Ships that will be over-age then include eight capital units, six cruisers, 120 destroyers, and 32 submarines. If all of these were retained or were ready to be put in commission, the 1944 fleet would embrace 23 capital ships, 65 cruisers, 11 aircraft carriers, 293 destroyers, and 89 submarines. The already-mentioned tonnage total of 2,100,000 tons includes these over-age units. Besides providing a record-breaking increase in the four combatant categories, radical changes are projected in the law which provides that naval construction shall be allocated on a fifty-fifty basis between navy yards and private shipyards. This would be repealed, but the provision fixing profits of private yards at 10 per cent of the completed cost would be retained. A further departure is that the Secretary of the Navy be authorized to make advances to private contractors not in excess of 30 per cent of the contract price of the ship, and then only in cases where adequate security is given for the protection of the Government. The Secretary of the Navy may also, in the interest of national defense, award contracts for ships, aircraft, or parts, without competitive bidding, when prices were determined to be fair and reasonable. Following conferences lasting through several weeks between the Chairman of the House Naval Affairs Committee and the Navy Department, final details of the bill were worked out between the former and Admiral Harold R. Stark, Chief of Naval Operations. Later in November, President Roosevelt warned that disturbed world conditions would necessitate a record peacetime national defense budget of about \$2,250,000,000 in 1940, and said that the country must soon decide whether the bill should

be met by a special defense tax or through additional borrowing which would put a burden on future generations. The current military and naval budget totals about \$1,760,000,000, a record peacetime allowance. As a result of the projected half billion addition for defense expenditures, a friendly but no less strenuous tug-of-war was understood to have developed between the two services with a view to securing the lion's share. While the President's plan calls for a total defense outlay of \$2,250,000,000, the Navy Department has reported requirement of \$1,300,000,000, and the army a requirement of \$1,800,000,000. Naturally, both services felt that their defense plans would be crippled if they did not get the major share of the added half billion. On the other hand, it appeared that both would in the end be forced to modify their estimates.

#### DESTROYER AND SUBMARINE OPERATING DEFECTS

Scarcely more than a month of 1939 had gone by when press reports indicated that a substantial number of the navy's newest destroyers were being delayed because of engineering defects. The vessels affected are equipped with the high-temperature, high-pressure steam installations around which much controversy had been evident in the Navy Department for a considerable period. Some officers, however, inclined to the belief that the turbine failures resulted, partially at least, because the designers had available too little experience and had given too little study to the effects produced on turbine blades with the present standard steam condition for new construction in the Navy of 600 lbs. per square inch pressure and 850 degrees Fahrenheit temperature. For a time, this type propulsion motive power question threatened materially to delay work on four battleships and threatened even greater delay in starting construction of the aircraft carrier *Hornet*, authorized in May 1938. In the matter of the *Hornet*, the issue appears to have lain between construction substantially as a duplicate

of the carriers *Enterprise* and *Yorktown*, already completed, and the desire of the Bureau of Engineering to prepare an entirely new design incorporating the new high-temperature, high-pressure steam standard. The then Assistant Secretary of the Navy Edison, who also is official coordinator of naval ship construction, while reported as favoring the *Hornet* as a new type of carrier, took the matter to the White House for adjudication. As preparation of a new design would involve a six months' delay, President Roosevelt ruled that the *Hornet* be constructed with the aid of the plans already on hand, and with propelling equipment of the *Enterprise-Yorktown* type.

Furnishing of detailed plans for vessels scheduled for construction has also on occasion stirred up a clash of opinion, involving, as it does, expense of \$1,000,000 and more as well as technical considerations of great importance to the shipbuilder. If the prospective or actual vessel builder has not been asked to supply plans, the procedure apparently adopted has been to have the plans furnished through a government navy yard or by a specified private firm. Early in October, as a direct result of defects in combatant naval ship design, what has been described as a major shake-up became operative in the Navy Department. In the reorganization, the Bureaus of Construction and Repair and Engineering were consolidated and three high ranking officers transferred to other posts. The trouble that apparently brought about the reorganization, related to 12 new destroyers of the *Anderson* group which each displace around 1,600 tons, mount five 5-inch caliber guns and embody 12 torpedo tubes. The units first completed and tested were found of heavier tonnage than anticipated, with the additional weight too high for the requisite stability. While found desirable when fuel tanks became low in content to replace the consumed oil with water ballast, the serviceability of the vessels was not in question although their operating efficiency might to some extent be reduced. Aside from differences of



opinion within the Navy Department, delays in the construction program and trouble and defects in individual vessels are not only hard to eliminate but are to be expected as the natural growing pains of a navy being rapidly yet systematically expanded.

Concerning demands for a Congressional investigation of naval vessel design and construction methods, President Roosevelt answered with the explanation that topheavy tendencies of recently built destroyers which prompted the proposed inquiry already had been corrected. While expressing no desire to discourage any investigation that Congress might authorize, he intimated that all basis for apprehension had been removed. The investigation had been proposed by Senator Wheeler a few days earlier, who stated that he had information that one of the new destroyers was so defective "it would hardly float." This development apparently coincided with the Navy Department's decision to hold up construction of the cruisers *Cleveland* and *Columbia* until designers had opportunity to study performance records of vessels active in the European war and to consider modifications of their own designs. Without elaboration of detail, the President indicated that the trouble with the destroyers was topheaviness due to excess weight in and on their upper structure—armor, armament and general equipment—aggravating a tendency of the vessels to roll and wallow in a heavy sea. Ten destroyers had still to be commissioned when the faults in their design and constructional detail were discovered. The President conceded in his references to the topheaviness matter that a difference of opinion had been evident concerning its basic origin. On Dec. 5, bearing directly on the foregoing, the Navy Department announced that the net cost of changing 36 destroyers would be \$230,884, an amount far under what a number of critics had predicted. The average per unit was estimated at \$6,413, and the approximate percentage cost of the change to the total cost of hull and machinery was placed at one-seventh of one per cent.

The cost of material taken from some of the vessels, much of which could be utilized on similar craft now building or yet to be built, was of course deducted. Pursuant to the remedying of defects in other destroyers, a cost was predicted of \$251,046 or \$41,841 each for changing six destroyers already delivered, and of \$213,246 or \$35,451 each to change six others practically completed in private shipyards.

The species of trouble inherent to our submarines has related almost wholly to a particular type engine installed. The engine in question is a new one manufactured by the Hoover-Owens Rentschler Co. of Ohio, being based upon a German M.A.N. Diesel, the design for which was bought from a German concern. With our navy as its customer, the Ohio establishment has been making the engines under license with a number of modifications of its own in the design. A dispatch to *The New York Times* of March 18, averred that ever since the first of the type was installed in the *Pompano* several years ago, they have been giving severe headaches, literally, to submarine commanders and crews and to those responsible for submarine engineering performance. The chief complaint against the HOR engine, as it is descriptively known, seems to be the great roar in the engine room and the speed with which the engines wear out. It is believed, however, that 75 per cent of the troubles will be eliminated when modifications in process during current overhauls are completed. That the Germans did not let us buy their latest refinement in Diesel design, goes without saying, and that the modifications in the original design made in this country did not, at first, help; and that inexperience in manufacture still further contributed to past and current troubles. It is pointed out too, that every new type of Diesel has been responsible for more or less trouble; that the Winton and the Fairbanks-Morse, other types now being made commercially for the navy, also offered engineering problems during their period of development some years ago. In any



## IX. DEFENSE AND ARMAMENT

case, it is understood that the German-designed Diesel still gives headaches to our navy's "submariners," notwithstanding that today's troubles are mild compared with those of yesterday. In a word, the kinks are gradually being ironed out.

### ENGINEERING AND CONSTRUCTION ACTIVITIES

The new ships of various types that have joined the fleet embody the many advances and improvements recorded in the field of marine engineering. Among the advances and improvements and constituting a bold step forward in the face of "conservation, trepidation, and no little opposition," particular reference is made to the adoption of high-pressure, high-temperature steam as a standard condition for steam propelled vessels of the Navy. The step to the present steam standard was not taken in one leap as some may imagine, but through a series of conservative advances from 200 to 300 to 400 to 450, and then to 600 lbs. per sq. inch, and increasing the superheat gradually, the last change being from 700 to 850 degrees Fahrenheit. Steam pressures of 1,200 lbs. per sq. inch and 950 degrees of superheat are not at all unusual for new installations ashore. The material condition of the engineering installation in all vessels in full commission continues to be satisfactory and, although repair facilities afloat are being operated efficiently, they are altogether inadequate to handle the load imposed by increase in number, size and power of the fleet constituent. As many as possible of the items on the Material Improvement Program have been undertaken within the limitation of funds provided. The list, however, contains many important items uncompleted and continues to grow. The capital ships *New York*, *Texas*, and *Oklahoma* continue to be handicapped and a source of heavy expense due to being equipped with reciprocating main propelling machinery.

Replacement of gasoline engines by those of Diesel has been a feature of the power boat equipment of both

new and old fleet units. Two 110-ft. harbor tugs of 600-750 horsepower with Diesel electric drive were completed at the Boston and Norfolk Navy yards. Two 65-ft. tugs of 240 horsepower, direct reversing, were completed for Pearl Harbor and the Newport Torpedo Station. Under construction were the following: at Mare Island, two 100-ft. yard tugs of 750 horsepower with Diesel electric drive, and one garbage lighter of 250 horsepower (direct coupled); at Puget Sound, Charleston, and Norfolk, five 100-ft. yard tugs of 1,000 horsepower with Diesel electric drive; at Pearl Harbor, one gasoline lighter of 420 horsepower (direct coupled). Three of the new standardized type of aircraft-rescue boats were built in navy yards during 1939. Those with two 600 horsepower engines make 36 knots, and those with two 760 horsepower engines make 40 knots. Boats for special duties were built as follows: four 40-ft. for surveys, equipped with two DA engines each; one 52-ft. for outlying air stations, equipped with one type D engine.

As might be expected, much in the direction of vessel and machinery design was developed and completed during the year. Necessarily, the work included preparation of contract plans and specifications, and such special phases of the latter as refer to propelling machinery, boilers, auxiliary machinery, and electric plants for the individual vessels concerned. Some improvement in the average age of navy yard tools and equipment was effected during 1939. The average age is now 17.5 years compared with 19 years when 1938 ended. Increase of the work load in the navy yards, due to the ship construction program, kept pace with the program of procurement of additional equipment. As a result, progress toward elimination of shop choke-points and shift-work was disappointing, the general situation being little better than hitherto. Again, the work load through its increase has forced retention of some old equipment of doubtful accuracy and uneconomical service ability, because it was still usable after a fashion.

## PERIODICAL PUBLICATIONS

### NAVY YARD FACILITIES

Late in March, the Navy Department announced that construction facilities were being expanded at the New York and Philadelphia Navy yards to accommodate capital ships up to and inclusive of 45,000 tons displacement. Building ways were being strengthened and extended at a cost of several million dollars. Incidental to a bill authorizing the expenditure of around \$50,000,000 on improvement of naval facilities, the Senate turned down a proposal to spend \$3,500,000 in aiding private construction of a dry dock in New York City of sufficient capacity to service the 45,000-ton capital ships now under construction. Opposition was based on the ground that the Government would spend a large sum of money for facilities that did not belong to it. In its stead, \$2,545,000 was authorized to enlarge facilities at Boston. Other authorizations provided for enlarged facilities at more than a score of naval establishments. A Senate amendment authorized the expenditure of \$6,000,000 to purchase and improve two graving docks in San Francisco Bay, to be operated as an annex to the

Mare Island Navy Yard. For enlarging the facilities of the latter, \$2,000,000 was authorized. In sum, the objective of the bill bore a distinct relationship to the ship construction program development.

On July 5, the Senate Naval Committee recommended that legislation be passed authorizing partial modernization of five capital ships at a total cost of around \$8,850,000. The vessels concerned are the *Tennessee*, *California*, *Colorado*, *Maryland*, and *West Virginia*. House approval had already been given the legislation which added \$6,600,000 to the navy's standing authority to spend \$450,000 a vessel on such improvements. It was understood when the bill became law that the work would be done at the Puget Sound (Wash.) Navy Yard, as all five vessels were on the Pacific Coast. Admiral Dubose, chief of the Bureau of Construction and Repair, informed the committee that complete modernization of the ships would cost around \$15,000,000 each, but the Navy Department did not want to undertake such a program because of the expense and time involved.

## PERIODICAL PUBLICATIONS

### *Army and Navy Journal*

1701 Connecticut Ave. N.W., Washington, D.C.

### *Army and Navy Register*

511 Eleventh Street N.W., Washington, D.C.

### *Army Ordinance*

Mills Building, Washington, D.C.

### *Cavalry Journal*

1624 H Street N.W., Washington, D.C.

### *Coast Artillery Journal*

1115 Seventeenth Street N.W., Washington, D.C.

### *Field Artillery Journal*

1624 H. Street N.W., Washington, D.C.

### *Infantry Journal*

1115 Seventeenth Street N.W., Washington, D.C.

### *Marine Corps Gazette*

United States Marine Corps, Washington, D.C.

### *Military Engineer*

Mills Building, Washington, D.C.

### *Quartermaster Review*

923 Fifteenth Street N.W., Washington, D.C.

### *U.S. Coast Guard*

462 Indiana Ave. N.W., Washington, D.C.

### *U.S. Navy Magazine*

Long Beach, Calif.

### *Waterways Journal*

1605 Chemical Building, St. Louis, Mo.

## IX. DEFENSE AND ARMAMENT

### COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

#### SERVICE SOCIETIES

AMERICAN LEGION, National Headquarters, 777 N. Meridian St., Indianapolis, Ind.

AMERICAN REMOUNT ASSN., 810 18th St., N.W., Washington, D.C.

AMERICAN SOCIETY OF NAVAL ENGINEERS, Bureau of Engineers, Navy Department, Washington, D.C.

ARMY ORDNANCE ASSN., Mills Bldg., 17th St. and Pennsylvania Ave., Washington, D.C.

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES, Army Medical Museum, Washington, D.C.

CHEMICAL WARFARE SERVICE, Edgewood Arsenal, Maryland.

NAVY LEAGUE OF THE UNITED STATES, Mills Bldg., Washington, D.C.

QUARTERMASTERS' ASSN. OF THE UNITED STATES, 923 15th St., N.W., Washington, D.C.

RESERVE OFFICERS ASSN. OF THE UNITED STATES, 1653 Pennsylvania Ave., N.W., Washington, D.C.

SOCIETY OF AMERICAN MILITARY ENGINEERS, 808 Mills Bldg., Washington, D.C.

SOCIETY OF NAVAL ARCHITECTS & MARINE ENGINEERS, 29 W. 39th St., New York City.

UNITED STATES CAVALRY ASSN., 1624 H St., N.W., Washington, D.C.

UNITED STATES FIELD ARTILLERY ASSN., 1624 H St., N.W., Washington, D.C.

UNITED STATES INFANTRY ASSN., 1115 17th St., N.W., Washington, D.C.

UNITED STATES NAVAL INSTITUTE, Annapolis, Md.

#### PATRIOTIC AND HEREDITARY

COLONIAL DAMES OF AMERICA, 421 E. 61st St., New York City.

DAUGHTERS OF 1812 U. S. NATIONAL

SOCIETY, 1461 Rhode Island Ave., N.W., Washington, D.C.

FOUNDERS AND PATRIOTS OF AMERICA, Fifth Ave. and 59th St., New York City.

GENERAL ORGANIZATION, SONS OF CONFEDERATE VETERANS, 609 Law Bldg., Richmond, Va.

GENERAL SOCIETY OF COLONIAL WARS, 1500 Walnut St., Philadelphia, Pa.

GENERAL SOCIETY OF MAYFLOWER DESCENDANTS, 420 Lexington Ave., New York City.

MILITARY ORDER OF FOREIGN WARS OF THE U.S., 4 W. 43d St., New York City.

MILITARY ORDER OF THE LOYAL LEGION, 4 W. 43d St., New York City.

MILITARY ORDER OF THE WORLD WAR, 1700 I St., N.W., Washington, D.C.

NATIONAL SECURITY LEAGUE, 45 W. 45th St., New York City.

NATIONAL SOCIETY OF THE DAUGHTERS OF THE AMERICAN REVOLUTION, Memorial Continental Hall, Washington, D.C.

NATIONAL SOCIETY OF THE SONS OF THE AMERICAN REVOLUTION, 1227 16th St., N.W., Washington, D.C.

NAVAL AND MILITARY ORDER, SPANISH-AMERICAN WAR VETERANS, 184 State House, Boston, Mass.

PILGRIM SOCIETY, Pilgrim Hall, Court St., Plymouth, Mass.

SOCIETY OF THE CINCINNATI, 136 W. Lanvale St., Baltimore, Md.

SONS OF UNION VETERANS OF THE CIVIL WAR, Colonial Trust Bldg., Reading, Pa.

UNITED CONFEDERATE VETERANS, 1528 Lowerline St., New Orleans, La.

UNITED SPANISH WAR VETERANS, 40 G St., N.E., Washington, D.C.

VETERANS OF FOREIGN WARS OF THE U.S., Broadway at 34th St., Kansas City, Mo.

PART FOUR  
ECONOMICS AND BUSINESS  
DIVISION X  
BUSINESS AND FINANCE

ECONOMIC AND BUSINESS CONDITIONS

By S. S. HUEBNER

PROFESSOR, UNIVERSITY OF PENNSYLVANIA

---

**MODERATE BUSINESS  
IMPROVEMENT**

In the previous issue of THE AMERICAN YEAR BOOK, the year 1938 was described as a famine-feast year in that the first half of the year was marked by depression conditions, whereas the last half showed moderate improvement along nearly all lines. The year 1939 may be given a similar characterization. The first four months were marked by a decline both in the securities market and in business conditions generally from the levels reached at the close of 1938. The last eight months, on the contrary, again showed a considerable improvement along nearly all lines, and this improvement was carried considerably beyond the maximum level reached in the preceding year. According to the Babson chart, the general business index at the close of 1939 stood about 18 per cent higher than the level prevailing at the close of 1938. In a few lines, especially in the iron and steel business, the advance was extraordinary, as will be explained in later pages. But for business as a whole, despite the substantial improvement, most 1939 totals were still below those of 1937, owing to the prosperous conditions prevailing during the first half of that year. As summarized by the

Guaranty Trust Company of New York (*Guaranty Survey*, Dec. 26, 1939):

"The year now drawing to a close has been, on the whole, one of marked recovery for American business. In this respect, it has been similar to 1938; and it can properly be regarded as marking a continuation of the irregular business expansion that began in the spring of last year, following the precipitous decline in the latter part of 1937.

"In 1939, however, as in 1938, the upward movement did not develop momentum until the year was well under way. The low point was reached in April, when operations in the bituminous coal industry virtually ceased and a fuel shortage was threatened as a result of the prolonged dispute between miners and operators. This setback was followed by a general business expansion that has continued almost without interruption during the remainder of the year. The outbreak of the European war, instead of halting the revival, as was feared in some quarters, appears to have had a stimulating effect, at least in some directions; and there is still a tendency to regard the war as a potential stimulus to American business over the near term, despite the



## X. BUSINESS AND FINANCE

fact that actual war buying thus far has been limited in amount and confined to a few specialized lines.

"The year closes with industrial production at nearly the highest level on record, according to the Federal Reserve adjusted index, which stands at 124 per cent of the 1923-25 average for November, almost equal to the 1929 peak. In making comparisons with conditions ten years ago, however, due recognition must be given the factor of normal growth. The population of the country, according to the estimates of the Census Bureau, is more than 7 per cent greater than it was in 1929, so that, on a per capita basis, industrial production is still considerably below the peak figure for that year."

### AGRICULTURE

The agricultural situation remained much the same as that of 1938, as regards both acreage and yield. To quote the *Guaranty Survey* (December 26): "Crop conditions compared rather favorably, on the whole, with those in recent years; and the relative level of farm prices rose moderately with the general price advance in the first few weeks of the war. The average level of prices received by farmers in the first eleven months of the year was slightly lower than a year ago; but this decline was approximately offset by the recession in prices paid for goods purchased, with the result that the average ratio of prices received to prices paid remained virtually unchanged. Income from farm marketings in the first ten months of the year was 2 per cent smaller than that in the similar period of 1938, but government payments were 62 per cent greater. Total cash income, accordingly, was 2 per cent above that of a year ago."

Prices of leading farm products at the close of 1939 varied considerably from the December prices of 1938, in some instances being lower and in others higher. Thus, for cattle, the December 1939 price was \$9.40 per 100 pounds as compared with \$10.15 for the same month in 1938; for hogs, \$5.20 as compared with \$7.20; for corn, 56½ cts. compared with 53½

cts.; for wheat (No. 2 Red Chicago), 115½ cts. compared with 66½ cts.; and, for cotton, 10.99 cts. per pound as compared with 8.31 cts.

### MANUFACTURING AND MINING INDUSTRIES

In these industries, where the output of product is more subject to control than in agriculture, the price changes were also considerable, in some instances higher and in others lower. Comparing December 1939 with the same month of 1938, the following price changes may be selected from the many listed in the *Guaranty Survey* (Dec. 26): coffee, 7¼ cts. per pound as compared with 7¾ cts.; copper, 12.37½ cts. per pound as compared with 11.12½ cts.; cotton, 10.99 cts. per pound as compared with 8.47 cts.; hides, 14½ cts. per pound as compared with 12.00 cts.; pig iron, \$22.56 (per gross ton) compared with \$20.56; steel billets (Pittsburgh) \$34 per gross ton compared with \$34; lead, 5.50 cts. per pound compared with 4.75 cts.; petroleum (Pennsylvania), \$2.50 per barrel compared with \$1.68; rosin, \$5.25 per 280 pounds compared with \$4.20; rubber, 20⅞ cts. per pound compared with 16⅞ cts.; silk, 3.84 cts. per pound compared with 1.56½; sugar, 2.95 cts. per pound compared with 2.85 cts.; tin, 50.50 cts. per pound compared with 43.25 cts.; wool \$1.02 per pound compared with 73 cts.; zinc, 6.00 cts. per pound compared with 4.54 cts.

### NEW CAPITAL FLOTATION

New corporate financing continued during 1939 on the same scale of utter stagnation as was the case during 1938, 1937, 1936, and 1935. The total new capital financing for the first nine months of 1939 aggregated only \$301,796,047 as compared with \$735,947,000 for the same period of 1938, and with \$1,154,135,177 for the same period of 1937. Smallness of the year's new capital flotation was also indicated by comparing it with the yearly totals of \$1,215,000,000 for 1936, \$4,494,000,000 for 1930, and \$8,639,000,000 for the banner year, 1929. However, the 1939 record greatly exceeds the extraordinarily small figures presented during

## ECONOMIC AND BUSINESS CONDITIONS

the height of the depression period (1932-35). It is also interesting to note a tremendous monthly fluctuation in capital flotations during 1939. Thus for January, the total was less than \$6,000,000, whereas, in September, the next lowest month, the total was slightly over \$16,000,000. The highest month recorded for the year was April with a total of \$77,066,042.

\$5,308,000,000 for 1937, \$6,477,000,000 for 1936, \$5,056,000,000 for 1935, and \$4,333,000,000 for 1934. As usual, New York City represented the larger share of clearings, all cities outside of New York representing collectively only \$3,174,000,000 out of the grand total of \$7,341,000,000 for the nation, including New York City, for the week ended Dec. 23, 1939. The table (p.

### CORPORATE FINANCING

(Source of Data—*Survey of Current Business*)

	1938		1939	
	Capital	Refunding	Capital	Refunding
January.....	\$ 46,365,000	\$ 4,141,000	\$ 5,827,000	\$ 10,386,000
February.....	40,852,000	62,225,000	23,571,000	136,115,000
March.....	23,995,000	57,643,000	52,979,000	46,689,000
April.....	11,683,000	66,750,000	77,060,000	129,249,000
May.....	37,512,000	25,692,000	21,240,000	151,002,000
June.....	202,316,000	98,791,000	30,241,000	251,798,000
July.....	130,276,000	55,545,000	49,464,000	176,523,000
August.....	127,014,000	211,141,000	25,395,000	298,798,000
September.....	84,931,000	65,136,000	16,019,000	74,175,000
October.....	63,922,000	274,237,000	.....	.....
November.....	43,521,000	107,702,000	.....	.....
December.....	59,544,000	250,493,000	.....	.....

### YEARLY TOTALS

	Capital	Refunding
1939	*\$ 301,796,000	*\$1,274,735,000
1938	871,931,000	1,279,496,000
1937	1,182,100,000	1,178,718,000
1936	1,214,951,000	3,391,997,000
1935	403,569,958	1,863,858,807
1934	178,257,949	312,836,500
1933	160,717,178	220,866,478
1932	325,361,625	318,533,720
1931	1,763,448,723	825,516,700
1930	4,944,403,166	528,875,877
1929	8,639,439,560	1,386,921,569
1928	6,079,602,416	1,738,274,615
1927	5,391,008,544	1,928,187,260
1926	4,357,002,720	942,550,970
1925	4,100,725,167	637,384,524
1924	3,322,295,764	516,275,300
1923	2,712,996,155	530,345,942

\* For 9 months.

### BANK CLEARINGS

Clearings showed a substantial increase towards the end of the year, the grand total for the week ended Dec. 23 (as reported by the *Commercial and Financial Chronicle*) for 113 cities being \$7,341,004,009, as compared with \$6,628,009,098 for 1938,

364) shows the substantial increase for all Federal Reserve centers in comparison with the corresponding week of 1938.

For the first nine months of 1939 bank clearings for the nation totaled \$307,000,000,000 as compared with \$294,000,000,000 for the corresponding period of 1938. For the nation as a whole, excluding New York City, such clearings totaled \$181,000,000,000 for the first nine months of the year as compared with \$171,000,000,000 for the same period of 1938.

### RAILROAD INDUSTRY

Attention has been called in previous issues of *THE AMERICAN YEAR BOOK* to the unfortunate position of the railroads during recent years. In fact, as a pivotal industry the railroads have probably suffered as great reverses as any other leading economic institution. This year, however, the railroad record shows a material improvement. According to the American Railway Association, the average weekly revenue freight car

## X. BUSINESS AND FINANCE

Federal Reserve District	1939 (millions)	1938 (millions)	Increase or Decrease
First—Boston (12 cities).....	\$ 312	\$ 281	+10.8%
Second—New York (13 cities).....	4,300	4,021	+6.9%
Third—Philadelphia (10 cities).....	493	433	+13.7%
Fourth—Cleveland (7 cities).....	394	320	+23.1%
Fifth—Richmond (6 cities).....	175	150	+16.8%
Sixth—Atlanta (10 cities).....	209	185	+12.8%
Seventh—Chicago (18 cities).....	634	510	+24.4%
Eighth—St. Louis (4 cities).....	182	151	+20.5%
Ninth—Minneapolis (7 cities).....	119	99	+19.3%
Tenth—Kansas City (10 cities).....	163	141	+15.2%
Eleventh—Dallas (6 cities).....	86	79	+9.0%
Twelfth—San Francisco (10 cities).....	274	255	+7.4%
Grand Total (113 cities).....	\$7,341	\$6,628	+10.8%
Outside New York City.....	\$3,174	\$2,731	+16.2%

loadings for the week ended Dec. 23 totaled 654,817, as compared with 579,478 for the corresponding week of 1938. The year's figure represented an increase of 14 per cent over the corresponding week of 1938, and of 43 per cent above the same week in 1937. For the first nine months of the year, average weekly freight car loadings stood at 623,540 as compared with 565,154 for the corresponding period of 1937. Also, with respect to railway earnings, there has been a marked improvement. Quoting the *Guaranty Survey* (Dec. 26):

"The increase in traffic has been sufficient to bring about a marked rise in earnings and has permitted some of the roads to make substantial reductions in their indebtedness to the banks and the Reconstruction Finance Corporation. The annual rate of return represented by net operating income, after reaching a low point for the year of 0.90 per cent in April, increased steadily, with only one minor interruption, until, in October, it reached 2.94 per cent, which compares with 1.98 per cent a year earlier. Net operating income for the first ten months of the year was at the annual rate of 2.07 per cent as against 1.24 per cent for the similar period last year."

### EXPORTS AND IMPORTS

This branch of economic activity continued to show the same unfavorable tendency noted during 1938. Exports for the 11 months of 1939 totaled

only \$2,809,725,000 and imports \$2,071,193,000. These figures compare with exports of \$2,825,496,000 for the 11 months of 1938, and with imports, during the corresponding period of 1938, of \$1,789,046,000. The 1939 exports (11 months) of \$2,809,725,000 compared with \$3,026,000,000 for 1937, \$2,226,000,000 for 1936, \$2,059,000,000 for 1935, \$1,962,000,000 for 1934, \$1,482,000,000 for 1933, and \$1,479,000,000 for 1932. Imports of \$2,071,193,000 (11 months) compared with \$2,875,000,000 for 1937, \$2,177,000,000 for 1936, \$1,861,000,000 for 1935, \$1,523,000,000 for 1934, \$1,316,000,000 for 1933, and \$1,226,000,000 for 1932.

It should be noted that imports were considerably greater than the previous year, thus materially reducing the export trade balance. As stated by the *Guaranty Survey*: "The export trade balance is considerably smaller than in 1938. The surplus of exports over imports for the year 1939 is 681 millions as against 960 millions a year ago."

### AUTOMOBILE SALES

Figures of automobile production during the eleven months of 1939, ended with November, showed a great increase over the corresponding period of 1938, although they were still under the figures of 1937 and 1936. For 1939 (11 months) sales totaled 3,125,034 units (for all vehicles) as compared with 2,100,739 for 1938, and 4,482,740 and 3,955,405 for the corresponding periods of 1937 and 1936.



## ECONOMIC AND BUSINESS CONDITIONS

It is also interesting to compare the aforementioned 1939 total with that of 1929 when production for all of the year amounted to 5,621,715 units.

The 1939 gain over 1938 was substantial as regards both passenger cars and trucks. For passenger cars, the production for the eleven months of 1939 was 2,492,969 units, and for trucks, 632,065 units, as compared with 1,674,979 and 425,760 for the corresponding months of 1938.

### IRON AND STEEL OPERATIONS

For the iron and steel businesses, 1939 was a year of decided improvement over 1938. According to the *Iron Age*, the business started with an ingot production of 3,174,352 tons for January. Thereafter, the production declined to a low of 2,922,675 tons during May; however, ingot production rose steadily to a record 5,463,000 tons during November. This figure, it should be pointed out, exceeds the previous peak in March 1929. Some of this huge increase in output was, no doubt, attributable to war orders, yet nearly all accounts stressed the point that the bulk of the greatly increased demand came from domestic rather than foreign sources. It must not be forgotten that in this field a very large backlog of wear and tear during depression years needs to be replenished.

For all of the eleven months of the year to December, ingot output exceeded that for the corresponding period of 1938 by 65 per cent. The total, however, was still 15 per cent below that of 1937 and 21 per cent below that of 1929. Prices for pig iron were also fairly well maintained during the year, although the average price was slightly lower than in 1938. The price of No. 2 Southern at Cincinnati averaged \$21.17 for nine months of 1939 as against \$22.58 for the corresponding period of the previous year.

### BUILDING CONSTRUCTION

Using the figures of the F. W. Dodge Corporation for 37 eastern states, new building awards for 1939, during the first nine months, amounted to \$2,634,802,000, compared with

the following figures for the corresponding period: \$2,151,446,000 for 1938, \$2,303,126,600 for 1937, \$2,041,628,200 for 1936, \$1,191,697,700 for 1935, \$1,203,507,200 for 1934, and \$740,791,000 for 1933. Much of the improvement in the year's record was traceable to the construction of dwellings. As reported by the *Commercial and Financial Chronicle* (Dec. 30): "Nearly 260,000 new dwelling units were provided during the first nine months of 1939. . . . This is an increase of 43 per cent as compared with the corresponding period of 1938. Increases in the number of dwelling units provided were shown in all sections of the country, the most important gains being in the Middle Atlantic states, the Eastern-Northern states, and the South Atlantic states. In this connection it is important to remember that residential building was greater in 1938 than in any year since 1929. At the bottom of the depression we were building only one-tenth as many residences as in 1925; at present we are building about 85 per cent as many."

### COMMERCIAL FAILURES

THE AMERICAN YEAR BOOK, 1938, explained the very favorable business failure record prevailing during 1938, 1937, and 1936. The 1939 record was again a very favorable one, the total number of business failures reported by Dun and Bradstreet for nine months amounting to only 9,097 as compared with 9,980 for the corresponding period of 1938, and 6,824 for 1937. The total liabilities of failures amounted to only \$128,494,000 for the nine months of the year, as against \$184,456,000 and \$124,956,000 for the corresponding periods of 1938 and 1937. The favorable character of these figures becomes clear when we compare the 1939 number of failures (9,097) with the 16,732 and 27,007 figures for the nine months of 1933 and 1932, the bottom years of the recent business depression. The record of liabilities of \$128,494,000 for the nine months of 1939 also compares favorably with \$164,000,000, \$236,000,000, \$206,000,000, \$419,000,000, and \$753,000,000 for the corresponding



## X. BUSINESS AND FINANCE

nine months of 1936, 1935, 1934, 1933, and 1932. As was stated in 1938: "There is still every reason to believe that the heavy liquidation of the depression has run its course, and that there is little to fear by way of a bankruptcy situation for a long time to come."

### INDUSTRIAL AND RAILROAD DIVIDENDS

For the nine months of 1939 dividend declarations of industrial and miscellaneous American corporations, (*Babson's Reports*) totaled only \$2,-014,863,000, and for American railroads \$105,847,000. These totals compare with \$1,958,035,000 and \$106,531,000 for the corresponding months of 1938, thus showing practically no change in the year as compared with the previous year. The 1939 nine months' record of industrial dividends (\$2,014,000,000) compares with \$2,-707,000,000 for the corresponding period in 1937, \$2,163,000,000 in 1936, \$1,717,000,000 in 1935, \$1,616,000,000 in

1934, \$1,481,000,000 in 1933, and \$1,-863,000,000 in 1932. Railroad dividend payments for the nine months of 1939 (\$106,000,000) compare with \$148,000,000, \$175,000,000, \$141,000,000, \$141,000,000, \$122,000,000, \$141,000,000, and \$347,000,000 for the corresponding months of 1937, 1936, 1935, 1934, 1933, 1932, and 1931. These figures will serve to indicate, as was explained in 1938, that "Industrial rewards to stockholders are still very far from the payments prevailing at the beginning of the depression in 1930, while the return to stockholders in American railroads is still pitifully small."

### GENERAL BUSINESS INDICES

Using the figures of the Board of Governors of the Federal Reserve System, issued for the month of December, it would appear that October 1939 (the latest figures available) showed moderate increases along nearly all important lines, as compared with the corresponding month

### INDUSTRIAL PRODUCTION

(1923-1925 average = 100)

	Adjusted for Seasonal Variation			Without Seasonal Adjustment		
	Oct. 1939	Nov. 1938	Oct. 1938	Oct. 1939	Nov. 1938	Oct. 1938
<b>Durable Goods</b>						
Iron and Steel.....	157	108	90	152	100	88
Automobiles.....	78	96	84	93	115	63
Locomotives.....	...	8	5	20	8	5
Plate Glass.....	222	155	155	222	155	155
Tin Deliveries.....	95	73	81	95	73	61
Beehive Coke.....	23	6	6	22	6	5
<b>Non-Durable Goods</b>						
Textiles.....	123	112	100	127	116	103
Slaughtering and Meat Packing.....	99	94	95	97	104	94
Wheat Flour.....	91	86	91	102	93	102
Sugar Meltings.....	91	100	103	87	78	98
Newsprint Production.....	63	63	58	63	63	58
Leather and Products.....	104	107	101	115	102	111
Petroleum Refining.....	221	208	208	221	208	209
Lubricating Oil.....	123	109	110	123	109	110
Tobacco Products.....	166	164	150	179	167	161
<b>Minerals</b>						
Bituminous Coal.....	93	76	72	102	86	79
Anthracite.....	58	58	49	75	60	63
Petroleum, Crude.....	185	165	161	187	162	163
Iron Ore.....	128	42	50	218	35	86
Zinc.....	110	88	80	106	88	78
Silver.....	104	51	102	98	55	101

## ECONOMIC AND BUSINESS CONDITIONS

of 1938. Certain exceptions, however, should be noted, like iron and steel with an increase from 90 to 157, plate glass (increase from 155 to 222), tin deliveries (increase from 81 to 95), beehive coke (increase from 6 to 23), textiles (increase from 100 to 123), bituminous coal (increase from 72 to 93), iron ore (increase from 50 to 128), and zinc (increase from 80 to 110). For figures for numerous leading groups see foregoing table.

### COMMODITY INDEX NUMBERS AND LABOR CONDITIONS

Using the Bureau of Labor Statistics Price Index for Main Groups of Commodities, 1939 experienced a moderate increase in the price level in practically all groups of industries. On Dec. 23, 1939, this index stood at 79.3, as compared with 76.6 for 1938 (Dec. 24), 81.2 for 1937, 84.1 for 1936, 80.6 for 1935, and 77.1 for 1934, and with the yearly averages of 66 for 1933, 64.9 for 1932, 73 for 1931, 86.4 for 1930, 95.3 for 1929, 100 for 1926, and 154.4 for 1920, the highest yearly average under this index since the be-

### INDEX NUMBERS OF COMMODITY PRICES

(Source: U. S. Dept. of Labor—  
Standard Trade and Security  
"Current Statistics")

(Source: U. K. Board of Trade—  
Bank of England Statistical Summary)

	U. S. Dept. of Labor		U. K. Board of Trade	
	1938	1939	1938	1939
January.....	80.9	76.9	107.7	97.2
February.....	79.8	76.9	105.8	96.8
March.....	79.7	76.7	104.1	96.6
April.....	78.7	76.2	103.1	97.2
May.....	78.1	76.2	102.0	97.8
June.....	78.3	75.6	100.7	98.1
July.....	78.8	75.4	100.6	98.1
August.....	78.1	75.0	99.5	98.1
September....	78.3	79.1	98.4	105.2
October.....	77.6	79.4	99.1	110.7
November....	77.5	....	....	....
December....	77.0	....	....	....

### YEARLY AVERAGE

(U. S. Dept. of Labor)

1904.....	59.7	1922.....	96.7
1905.....	60.1	1923.....	100.6
1906.....	61.8	1924.....	98.1
1907.....	65.2	1925.....	103.5
1908.....	62.9	1926.....	100.0
1909.....	67.6	1927.....	95.4
1910.....	70.4	1928.....	96.7
1911.....	64.9	1929.....	95.3
1912.....	69.1	1930.....	86.4
1913.....	69.8	1931.....	73.0
1914.....	68.1	1932.....	64.9
1915.....	69.5	1933.....	66.0
1916.....	85.5	1934.....	75.0
1917.....	117.5	1935.....	80.0
1918.....	131.3	1936.....	80.8
1919.....	138.6	1937.....	86.3
1920.....	154.4	1938.....	78.6
1921.....	97.6	1939 (October)	79.4

ginning of the century. While favorable in comparison with the years 1931-34, the 1939 price level was still far below the levels prior to 1931. In only three of the recorded groups was there more than a moderate increase, namely, hides and leather goods (increase from 93.8 to 104.4, Dec. 24, 1938 to Dec. 23, 1939), textiles (increase from 65.2 to 72.1), and semi-manufactured articles (increase from 75.1 to 82.1). In tabular form the index numbers of the Bureau for the main groups of commodities, at the close of the year, compared with former years as shown next page.

With respect to labor conditions, using October as the basis (latest figures available), 1939 showed considerable advances along nearly all lines as compared with the same month of 1938. Likewise, with respect to payrolls, the showing was quite favorable as regards leading industries. Some, like iron and steel machinery, transportation equipment, and non-ferrous metals, show a rather remarkable increase. Referring to the December report of the Board of Governors of the Federal Reserve System, see table (p. 368) for the showing for leading industries as regards employment and payrolls.

# X. BUSINESS AND FINANCE

## BUREAU OF LABOR STATISTICS PRICE INDEX FOR MAIN GROUPS OF COMMODITIES

(1926 = 100)

Commodity Groups	Dec. 23 1939	Dec. 24 1938	Dec. 25 1937	Dec. 26 1936	Dec. 28 1935
All Commodities .....	79.3	76.6	81.2	84.1	80.6
Farm Products .....	67.8	67.2	72.9	88.4	78.4
Foods .....	72.1	72.2	78.9	85.7	85.3
Hides and Leather Products .....	104.4	93.8	98.4	101.1	96.4
Textile Products .....	72.1	65.2	69.4	76.1	72.8
Fuel and Lighting Materials .....	73.5	73.8	78.6	77.5	75.6
Metals and Metal Products .....	96.1	94.8	96.2	89.1	85.9
Building Materials .....	93.6	89.3	92.5	89.7	85.1
Chemicals and Drugs .....	78.0	76.4	79.2	86.1	80.0
Housefurnishings Goods .....	90.0	87.6	91.4	84.3	82.2
Miscellaneous .....	77.4	72.9	74.9	74.5	67.5
Raw Materials .....	73.3	70.3	75.3	85.5	...
Semi-manufactured Articles .....	82.1	75.1	77.4	83.1	...
Finished Products .....	82.2	80.2	85.0	83.9	...
All Commodities Other than Farm Products ..	81.8	78.7	83.1	83.1	81.1
All Commodities Other than Farm Products and Foods .....	84.3	80.5	83.6	82.4	78.8

Source of data—*Commercial and Financial Chronicle*, December, 1939.

## FACTORY EMPLOYMENT AND PAYROLLS

(1923-1925 average = 100)

	Employment						Payrolls		
	Adjusted for Seasonal Variation			Without Seasonal Adjustment			Without Seasonal Adjustment		
	Oct. 1939	Oct. 1938	Nov. 1937	Oct. 1939	Oct. 1938	Nov. 1937	Oct. 1939	Oct. 1938	Nov. 1937
<b>Durable Goods</b>									
Iron and Steel .....	105.0	85.8	104.6	106.0	86.7	105.0	111.5	76.7	88.7
Machinery .....	105.6	86.8	120.7	106.5	87.3	121.1	111.1	81.1	120.1
Transportation Equipment ..	104.2	80.3	119.4	103.1	80.2	121.5	109.0	83.5	118.4
Non-ferrous Metals .....	107.1	88.4	103.4	110.6	91.5	106.8	113.5	85.4	99.0
Lumber and Products .....	69.4	62.4	70.2	72.5	65.2	71.0	68.2	59.7	58.5
Stone, Clay and Glass .....	81.0	73.2	77.7	83.6	75.7	78.2	78.5	66.3	69.9
<b>Non-durable Goods</b>									
Textiles and Products .....	106.4	98.9	97.0	108.4	100.9	97.2	93.9	85.1	73.8
Leather Products .....	97.2	96.5	90.5	96.1	95.4	83.9	76.5	74.5	55.9
Food Products .....	126.4	123.4	127.3	137.1	133.9	127.5	129.7	125.4	126.3
Tobacco Products .....	63.5	64.4	64.2	66.7	67.7	67.5	63.3	62.9	61.8
Paper and Printing .....	114.9	109.2	110.1	116.4	110.6	111.7	113.7	105.1	106.6
Chemical and Petroleum Products .....	119.8	112.6	122.9	133.6	114.9	124.5	133.6	119.3	129.9
Rubber Products .....	91.2	76.5	89.7	92.5	77.6	90.5	102.2	82.1	82.2

Indices of factory employment and payrolls are for payroll period ending nearest the middle of the month. October, 1939 figures are preliminary.

Source of data—*Commercial and Financial Chronicle*, December, 1939.

## THE SECURITY AND MONEY MARKETS

### THE SECURITY AND MONEY MARKETS

By S. S. HUEBNER

PROFESSOR, UNIVERSITY OF PENNSYLVANIA

#### GENERAL MARKET CONDITIONS

The year 1939 in these markets was an uneventful one of extreme dullness, marked by a moderate decline in stock market prices during the first four months, and by a subsequent recovery about equal to the decline. As explained in the 1938 review, the stock market of the last half of that year witnessed a substantial recovery from the drastic decline of 1937. The price level established at the end of 1938 was substantially maintained throughout 1939, with the exception of the first four months.

All of the factors as outlined in the 1938 account (see *THE AMERICAN YEAR BOOK*, 1938, p. 363) continued during 1939, and without material change. It may be said, however, that business as a whole continued to improve considerably beyond the level reached at the close of 1938. Using the Babson chart of United States business conditions, the index of business at the close of 1939 showed a gain of about 18 per cent as compared with the close of the previous year. In fact, so marked was the improvement in business during the last half of 1939 along nearly all lines, it led many to assert that the stock market failed to keep pace with business conditions.

Only one new factor of importance stock-market-wise was apparent—the outbreak of the European war. War scares were frequent during the early months of the year, and possibly occasioned the market decline from January to April, inclusive. But the effect of war fears finally subsided, and the market exhibited increasingly a steady tendency. When war finally came, the stock market seemed remarkably settled. With the outbreak of the World War the stock market was in chaos, and the Exchanges of the world had to be closed for four months. Following this

shock, the market during all of 1915 experienced a rise of extraordinary boom proportions.

The year 1939, however, presented an entirely different spectacle. A moderate rise occurred, it is true, with the announcement of war, occasioned chiefly by the rise in certain groups of stocks—iron and steel, chemical, motor, and aircraft groups—which were most likely to be beneficiaries of large war orders. But this price rise soon spent its force, and subsequently was largely lost before the end of the year. For example, the shares of the United States Steel and the Bethlehem Steel corporations rose sharply, following the announcement of war, to \$82 and \$100 respectively, but later nearly all of this gain was lost, the price of these two shares at the close of 1939 being only \$66 and \$81, respectively. If the stock market may be regarded as a discount of the future, it would appear that this time war no longer affords the speculative community the glamor that was the case in 1914–15. Most writers seem to emphasize the domestic business situation when discussing today's stock market, and take the position that the market's discounting function seems to be focussed upon the nation's internal situation rather than upon the foreign war.

#### STOCK PRICES

**Industrials.**—The extent of the decline during the first four months of 1939, and of the recovery during the subsequent months of the year, may be seen by the monthly averages of the Standard Statistics Company for various groups of stocks. Fifty representative industrial stocks declined from a monthly average of 122.5 for January to 105.2 for April. Thereafter the monthly average rose quite steadily, with only occasional minor drops, to 125.5 in October. For November (the latest month for



## X. BUSINESS AND FINANCE

which an average is available) the figure stood at 123. The November average of 123 compares with 129.1 for November of 1938, 107.8 for November of 1937, 168 for January of 1937, 129.1 for January of 1936, and 53.5 for the yearly average of 1932, the bottom year of the 1930-36 depression. It is interesting to note that the November 1939 average of 123 is approximately 2.3 times the 1932 yearly average of 53.5. It should also be pointed out that during 1929 this industrial list reached the highest monthly level of 245.9 during September. Comparing this average with 37.9, the lowest monthly average reached in June 1932, it appears that industrial shares declined within the three years under consideration by nearly 85 per cent.

**Rails.**—With respect to 20 representative railroad stocks, the monthly average of the Standard Statistics Company declined from 31.3 in January, 1939 to 25.6 in April. Thereafter the monthly average fluctuated somewhat, although clearly on a rising scale, until it stood at 35 in October. For November the monthly average stood at 33.5, which compares with 31.7 for November 1938, 33.1 for November 1937 (the low of that year), with 47 for January 1936, and with yearly averages of 36 for 1935, 42.9 for 1934, 39 for 1933, 26.8 for 1932, and 141 for 1929. During 1929 it should be noted that these railroad shares reached the highest monthly level of 161.2 during September. Comparing this average with 15, the low average reached in June 1932, it appears that railroad shares declined within the three years under consideration by over 90 per cent. It is again interesting to compare the November 1939 average of 33.5 with the 1932 low monthly average of 15, and also with the September 1929 high average of 161.2.

**Public Utilities.**—A similar trend is shown in the public utility group during 1939. According to the Standard Statistics Company average for 20 utilities, the monthly average declined from 66.6 in January to 62.1 in April. Thereafter there was a rising tendency in the price level until

it reached 70.2 for October. Minor fluctuations occurred in this group from month to month until November (the latest average available) when the average stood at 69.5 which compares with 66.4 for November 1938, 63.3 for November of 1937, 100.9 for January of 1937, 88.4 for January of 1936, and with yearly averages of 62.8 for 1935, 65.5 for 1934, 81.8 for 1933, 88.7 for 1932, and 246 for 1929. During 1929, it should be noted that utility stocks also reached the highest monthly level during September—340.6. It is interesting to compare the November 1939 average of 69.5 on the one hand, with the depression level of 88.7 in 1932, and also with the 1929 high of 340.6.

**Metals.**—Attention may also be called to a representative list of seven copper and brass stocks whose average price underwent a decline from 145.6 for January 1939 to 114 for May of the same year. Thereafter the price rose until it stood at 154.2 for October. The November average (latest available) stood at 146.9, comparing with 165.8 for November 1938, 115.4 for November 1937, 227.4 for January 1937, and 113.4 for January 1936.

**Market Value of Listed Shares.**—Using the figures of the New York Stock Exchange (formerly published in the New York Stock Exchange *Bulletin*, but now furnished upon request) the total market value of the 1,431,642,000 listed shares on the New York Stock Exchange stood at \$45,505,229,000 on Dec. 1, 1939. This value compares with \$46,081,000,000 at the same date in 1938, with \$40,716,000,000 on Dec. 1, 1937, and with \$62,618,000,000 for March of 1937, the high mark before the bear market of 1937-38 began its course. The present value may also be compared with the low of \$34,585,000,000 for May 1938. In other words, there occurred an appreciation of approximately \$11,000,000,000 since May 1938, as compared with a total decline of about \$28,000,000,000 between March of 1937 and May of 1938.

**Price Averages.**—The average monthly "all stock price index," as furnished by the New York Stock Ex-

## THE SECURITY AND MONEY MARKETS

change, stood at 63.2 for November 1939, as compared with 64.1 for November 1938, and with 48.1 for May of the same year. The Dec. 1, 1939 average of 63.2 compares with the following December averages for preceding years: 37.80 for December 1937, 56.01 for 1936, 45.85 for 1935, 35.59 for 1934, 32.78 for 1933, 25.61 for 1932, 34.24 for 1931, 55.53 for 1930, 68.44 for 1929, and 97.80 for 1928.

Shares sold on the New York Stock Exchange during 1939 totalled only 262,015,799 (as reported by *The New York Times*) as compared with 297,446,059 shares for 1938, 409,468,855 for 1937, 497,063,099 for 1936, 381,666,197 for 1935, 324,000,000 for 1934, 655,000,000 for 1933, 425,000,000 for 1932, 577,000,000 for 1931, 811,000,000 for 1930, and 1,125,000,000 for 1929, the highest figure on record.

### SECURITY MARKET PRICES \*

	Railroads 20 stocks		Industrials 50 stocks		Public Utilities 20 stocks		Copper and Brass 7 stocks		Stocks 90 stocks	
	1938	1939	1938	1939	1938	1939	1938	1939	1938	1939
Jan.....	31.5	31.3	110.5	122.5	59.3	66.6	131.2	145.6	89.3	99.3
Feb.....	30.2	30.3	108.5	120.7	55.8	69.7	129.8	134.5	87.6	98.5
March.....	25.9	31.1	101.8	120.4	52.6	69.6	124.6	136.9	81.9	98.3
April.....	23.0	25.6	97.7	105.2	51.6	62.1	108.5	115.6	78.5	86.0
May.....	23.1	26.8	97.5	108.7	56.0	65.5	112.3	114.0	79.2	65.5
June.....	22.7	27.2	100.3	110.7	55.9	66.6	103.6	117.9	81.1	66.6
July.....	29.6	27.9	120.7	113.2	63.2	68.6	143.3	123.1	97.2	68.6
August.....	29.4	27.0	122.4	111.1	59.9	70.2	147.5	125.1	97.7	70.2
Sept.....	26.4	32.6	117.6	125.1	55.9	67.1	143.7	152.3	93.7	67.1
Oct.....	31.4	35.0	129.3	125.5	65.8	69.0	162.4	154.2	103.7	69.0
Nov.....	31.7	33.5	129.1	123.0	66.4	69.5	165.8	146.9	103.8	69.5
Dec.....	30.7	...	125.8	....	62.7	...	155.5	....	100.7	...

\* An average for the month based on daily closing prices.  
(Source of data—*Standard Trade and Securities, Statistical Bulletin*,  
Standard Statistics Company, Inc.)

### VOLUME OF STOCK TRANSACTIONS

Stock transactions on the New York Stock Exchange during 1939 again showed a substantial decrease from the volume recorded for the three previous years, 1938, 1937, and 1936. Despite the substantial maintenance of the price level throughout 1939, there was a surprising dullness in market activity. Rarely did monthly sales on the New York Stock Exchange exceed the 25,000,000-share mark, and during May and June the monthly volume was under 13,000,000 and 12,000,000 shares, respectively. Only during September, with the outbreak of the war, did the volume of sales rise to 57,091,000 shares. But this increase in volume was short-lived, and for the balance of the year the market may be characterized as extremely dull.

As explained in previous issues of *THE AMERICAN YEAR BOOK*, the huge rise in the number of shares dealt in during 1929 and 1930 is partly attributable to the substantial increase in the number of shares listed on the New York Stock Exchange. During 1933 and thereafter, however, the volume of transactions was not greatly increased by this factor. On the New York Curb Market sales also showed a similar tendency towards further decline, the total sales standing at only 45,800,633 shares (*The New York Times*) as compared with 49,795,922 shares for 1938, 104,178,804 for 1937, 134,843,049 for 1936, 75,850,188 for 1935, 55,888,426 for 1934, 100,653,000 for 1933 and 56,979,581 for 1932. The 1939 total of only 46,000,000 shares compares with 110,000,000 for 1931, 220,000,000 for 1930, and 474,000,000 for 1929.

## X. BUSINESS AND FINANCE

### SHARES TRADED ON THE NEW YORK STOCK EXCHANGE

(Babsonchart)

	1938	1939
Jan.....	24,151,931	25,182,350
Feb.....	14,526,094	13,873,323
March.....	22,995,770	25,564,174
April.....	17,119,104	20,246,238
May.....	14,004,244	12,935,210
June.....	24,368,040	11,963,790
July.....	38,773,575	18,067,920
Aug.....	20,728,160	17,372,781
Sept.....	23,826,970	57,091,430
Oct.....	41,558,470	.....
Nov.....	27,922,295	.....
Dec.....	27,492,069	.....

#### YEARLY TOTALS

(Shares of Stock)

1920....	226,640,400	1930....	810,038,161
1921....	172,712,716	1931....	576,921,426*
1922....	258,652,519	1932....	425,235,829*
1923....	236,115,040	1933....	654,874,210*
1924....	281,991,597	1934....	323,871,840*
1925....	454,404,733	1935....	381,666,197*
1926....	450,845,255	1936....	496,063,099*
1927....	576,563,218	1937....	409,468,885*
1928....	919,661,825	1938....	269,974,000*
1929....	1,124,991,490	1939....	262,015,799*

\* From *The New York Times*

#### BOND MARKET

All American bonds listed on the New York Stock Exchange (1,396 issues) showed a total market value of \$47,839,378,000 on Dec. 1, 1939. This value compares with \$50,301,000,000 on Dec. 1, 1938, and with \$39,088,000,000 on Dec. 1, 1937. On Dec. 1, 1939 the average price of the aforementioned number of listed bond issues stood at 91.24, which compares with 90.34 for Dec. 1, 1938, 92.36 for Dec. 1, 1937, and with the following December averages of previous years: 100.55 for 1936, 93.69 for 1935, 91.68 for 1934, 82.98 for 1933, 81.36 for 1932, 84.13 for 1931, 96.51 for 1930, 96.80 for 1929, 98.69 for 1928.

Bond sales on the New York Stock Exchange during 1939 totalled \$2,048,237,875 (*The New York Times*) as compared with \$1,859,525,825 for 1938, \$2,792,531,000 for 1937, \$3,575,453,110 for 1936, \$3,437,000,000 for 1935, \$3,729,000,000 for 1934, \$3,366,000,000 for 1933, \$2,972,000,000 for

1932, \$3,075,000,000 for 1931, \$2,779,000,000 for 1930, and \$3,020,000,000 for 1929. During 1939 bonds maintained a fairly steady price level throughout the year. Using the Babson "average price of leading bonds," the monthly average stood at 84.1 for January 1939. For March the price level had risen to 85.4, the highest monthly average of the year. Thereafter the price fluctuated slightly from month to month, the averages standing at 80.7 for April, 81.3 for May, 82.3 for June, 82.8 for July, 82.1 for August, and 81.3 for September. For the last three months of the year the average figure was not available, but it may be said that nothing of particular note happened in the price level during the late months of the year. The September average of 81.3 compares with the following yearly averages: 81.1 for 1938, 96.8 for 1937, 98.3 for 1936, 90.4 for 1935, 92.8 for 1934, 81.8 for 1933, 76 for 1932, 92.4 for 1931, and 96.1 for 1930.

#### COMPOSITE BONDS

60 Bonds

	1938		1939	
	High	Low	High	Low
Jan.....	82.5	77.7	82.7	80.6
Feb.....	80.2	78.1	82.9	81.5
Mar.....	79.9	70.7	84.6	80.8
April.....	75.3	70.9	80.7	78.3
May.....	78.2	74.8	81.2	79.3
June.....	78.1	73.5	81.9	80.2
July.....	82.8	78.4	82.3	80.3
Aug.....	82.3	80.3	82.5	79.5
Sept.....	80.2	77.0	82.6	78.0
Oct.....	82.4	79.6	83.5	82.2
Nov.....	83.0	81.3	83.4	82.3
Dec.....	82.2	80.6	...	...

#### THE MONEY MARKET

With respect to both time and call loan rates, the 1939 tendency continued as it was during 1938 and the preceding five years. During all of 1939 there was a continuing plethora of idle funds. As was the case during previous years, in fact back to 1933, New York time and call loans were quoted at only about 1 per cent, thus showing a continuing unusual absence of demand for funds for both

## THE SECURITY AND MONEY MARKETS

commercial and speculative purposes. Beginning with a January average of  $\frac{3}{4}$  of 1 per cent for four to six months prime commercial paper, and 1 per cent for call loans in New York, the average monthly rates during 1939 remained extremely low throughout the year. For prime commercial paper the rate in New York averaged  $\frac{3}{4}$  of 1 per cent for January to June inclusive, and then declined to a monthly average of  $\frac{1}{2}$  of 1 per cent for July and August. For September the average monthly rate returned to  $\frac{3}{4}$  of 1 per cent. Later monthly averages were not available, but it is certain that no appreciable change occurred during the last quarter of the year. For call loans in New York the monthly average remained at 1 per cent for each of the first nine months of the year, and here also no appreciable change occurred during the last quarter of the year.

from \$43,000,000 on Dec. 1, 1938 to \$31,000,000 on Dec. 1, 1939. The small total may be compared with \$189,000,000 on Dec. 1, 1937. During the same period call loans decreased slightly from \$577,000,000 on Dec. 1, 1938 to \$543,000,000 for Dec. 1, 1939. Combining the two types of loans, total borrowings showed a further decrease from \$620,000,000 in 1938 (Dec. 1) to \$574,000,000 for the corresponding date in 1939. This combined total of \$574,000,000 compares with corresponding figures prevailing on Dec. 1 of \$687,000,000 for 1937, \$984,000,000 for 1936, \$846,000,000 for 1935, \$831,000,000 for 1934, \$789,000,000 for 1933, \$336,000,000 for 1932, \$730,000,000 for 1931, \$2,162,000,000 for 1930, \$4,017,000,000 for 1929, and \$6,392,000,000 for 1928. As explained in previous issues of THE AMERICAN YEAR BOOK, there is some reason to

### INTEREST RATES

(Source of Interest Rate Data—Standard Statistics)

(Source of Gold Movements—Standard Statistics)

(Source of Average Bank Rate—Babson's Statistical Service)

	Commercial Paper 4-6 Months		Call Loans—New York Stock Exchange Renewals—Average of Daily Renewal Rates		Average Bank Rates—England France and Germany		Gold Movements (Figures Show Excess of Imports over Exports) (000,000 omitted)	
	1938	1939	1938	1939	1938	1939	1938	1939
Jan....	1.00	0.75	1.00	1.00	3	2 $\frac{1}{2}$	2.1	156.3
Feb....	1.00	0.75	1.00	1.00	3	2 $\frac{1}{2}$	8.0	223.3
Mar....	1.00	0.75	1.00	1.00	3	2 $\frac{1}{2}$	52.9	365.4
April...	1.00	0.75	1.00	1.00	3	2 $\frac{1}{2}$	71.7	605.8
May....	1.00	0.75	1.00	1.00	2 $\frac{7}{8}$	2 $\frac{1}{2}$	52.8	429.4
June....	1.00	0.75	1.00	1.00	2 $\frac{5}{8}$	2 $\frac{1}{2}$	55.3	240.3
July....	1.00	0.75	1.00	1.00	2 $\frac{5}{8}$	2 $\frac{1}{2}$	63.8	278.6
August.	1.00	0.75	1.00	1.00	2 $\frac{5}{8}$	2 $\frac{1}{2}$	166.0	259.9
Sept....	0.90	0.75	1.00	1.00	2 $\frac{5}{8}$	3	520.9	326.1
Oct....	0.78	0.75	1.00	1.00	3	...	562.4	69.7
Nov....	0.75	0.75	1.00	1.00	3	...	177.8	...
Dec....	0.75	...	1.00	...	2 $\frac{5}{8}$	...	240.5	...

According to the New York Stock Exchange figures (Dec. 1, 1939), the borrowings of New York Stock Exchange members on collateral security showed little change from the figures of 1938. Thus, time loans decreased

believe that the low figures of brokerage borrowings are attributable in part to the fact that many purchasers of stock do their financing directly through the banks instead of with brokers as formerly.



## BANKING AFFAIRS

BY GURDEN EDWARDS

DIRECTOR, RESEARCH COUNCIL, AMERICAN BANKERS ASSOCIATION

## GENERAL

Banks of all classifications in the United States on June 30, 1939 numbered 15,082 institutions with aggregate deposits, exclusive of inter-bank deposits, of \$55,992,000,000, as reported in the *Federal Reserve Bulletin* of January 1940. The total investments of these institutions were \$28,297,000,000 on the date given and their loans were \$21,314,000,000. As to numbers, these figures showed a decrease of 205 banks during a year; as on June 30, 1938, 15,287 banks, including both national and state chartered institutions, were reported. In the same period there was an increase of \$3,797,000,000 in the item of deposits. At the earlier date, total deposits were \$52,195,000,000. Total investments of these banks increased by \$2,045,000,000 and their loans by \$184,000,000. This latter circumstance reflected a substantial reversal in the loan trend as compared with the previous year, when loans decreased by \$1,384,000,000, and would seem to indicate that the difficulties experienced by bankers in recent years in finding qualified commercial and industrial borrowers willing to venture on an expansion of their activities were less acute.

## CLASSIFICATIONS OF BANKS

The *Bulletin's* report on banks by classes showed that there were on June 30, 1939, 5,203 national banks as compared with 5,242 banks of this class a year earlier. The national banks had deposits of \$24,534,000,000 exclusive of inter-bank deposits, as compared with \$22,553,000,000 on June 30, 1938. The same reports showed that there were 9,879 state banks as compared with 10,045 the year before; this figure comprised commercial banks, trust companies, and mutual and stock savings banks. The deposits of this group of banks totaled on June 30, 1939, \$31,458,-

000,000 as compared with \$29,642,000,-000 June 30, 1938.

## SUSPENSIONS

The 11 months of 1939 from January through November brought 39 suspensions of banks with total deposits of \$35,213,000. This compares with 53 suspensions for the same period in 1938 with deposits of \$12,950,000. Of the 1939 suspensions, 29 were insured by the Federal Deposit Insurance Corporation with deposits of \$32,746,000.

## BANKING QUESTIONS

The American Bankers Association, discussing public and banking questions in its resolutions at its annual convention held in Seattle, Wash., in September 1939, adopted the following declarations:

"Once more American business and American banking must revise their policies and readjust their plans because a great war has broken out in Europe. . . . There is only one certainty about its results for us, and that is that they will be detrimental, for wars are vast tragic calamities which impoverish not merely the participants, but all other nations as well. . . . The policies of American banking should be resolutely directed toward restraining and restricting any excessive war boom in trade, industry, agriculture, or the security markets. The American Bankers Association and its members are fully cognizant of the dislocations which can occur in our national economy due to war conditions abroad, and the responsibilities which increasingly rest upon the shoulders of every banker as the custodian of the funds of the people of our country. We pledge ourselves to spare no effort or means in our power in meeting conditions as they may change from time to time, to the end that our nation may be able to maintain a sound and stable economy.

## BANKING AFFAIRS

### THE AMERICAN SYSTEM

"We reaffirm the action of previous conventions wherein the position of the Association was stated with regard to the dual system of banking, branch banking and the autonomy of the laws of the separate states with respect to banking, and opposing any proposal or device looking to the establishment of branch banking privileges across state lines, directly or indirectly.

### BANKING SUPERVISION

"With respect to governmental supervision of banking in the public interest, we believe this is wholly in keeping with the broad principle that the success and strength of democracy in America is largely due to the sound safeguards afforded by the wisely conceived checks and balances which pervade our composite governmental system. We believe, furthermore, that as regards banking supervision this same principle of checks and balances, which now exists, should be maintained.

### BANK EXAMINATIONS

"Various proposals are under consideration at Washington looking toward modifications of our present systems of bank examinations. The factors involved are too numerous and too complicated for discussion in these resolutions. There is, however, one principle concerning which the membership of this Association does desire to make record of its convictions, and that is that no attempt should ever be made to use bank examinations as instrumentalities of credit control. Bank examinations should be just what their designation implies, and no attempt should be made to use them for other purposes.

### BANKING AND CREDIT FACILITIES

"American banking is now meeting adequately the present needs of business and of individuals for credit accommodations, for facilities which encourage thrift, and for the financial mechanics which are essential to our national activities of production, exchange, and service. The recent

hearings before the Senate Committee on Banking and Currency produced abundant evidence that our banking system is now providing these facilities more fully, more flexibly, and at less cost to the customer than ever before.

"Recent proposals for legislation by which bank loans to small businesses would be insured or guaranteed by Federal funds are fundamentally unsound and appear to be without merit. They involve the unsound principle of creating new forms of easy credit with resulting high percentages of losses which would be shared first by the banks and then by the Government. Under such programs the making of loans to marginal business men already close to insolvency would tend to maintain temporarily large numbers of inefficient businesses in destructive competition with the solvent and well managed ones.

"Plans have also been under discussion of late for the creation of a system of capital credit banks. Most of these plans provide for the capital of the institutions being supplied by the government. At present our most pressing credit needs, other than the ones relating to our governmental finances, are not those calling for additional institutions to make loans. Powers already granted existing governmental agencies to participate with banks in the extension of certain types of loans seem, in our judgment, to be wholly adequate. Our most pressing credit need rather is for better prospects for business returns so that investors may be encouraged to venture in productive enterprises the redundant amounts of credit already available and now being inadequately employed.

"We urge again upon our members that they continue to explore fully every possibility of making their credit facilities available to all worthy borrowers. We also urge again that they continue to cooperate with applicants, where necessary, to put proposals, as presented, in bankable form, and to see that no sound and reasonable credit need is denied.

"We reiterate our belief that an ap-

## X. BUSINESS AND FINANCE

proach to a balanced budget should be the primary objective of our public fiscal policy to the end that sound national credit may be maintained. We take advantage of this opportunity to express to our fellow bankers, and to institutional and private investors, our continuing conviction that the bonds of our Federal Government are the safest of all investments. We are not disquieted by temporary fluctuations in their market prices, for these securities embody more fully than do any others the qualities of marketability and safety.

### THE BURDENS OF TAXATION

"The Congress and the Treasury now are studying our Federal tax laws with the announced intent of making them more equitable and their administration more efficient and certain. We commend this study and its objectives.

"Federal tax laws should not be passed hurriedly, without thorough study of their economic effect upon all classes of taxpayers and upon the government itself. They should be written with the aim of providing the necessary revenue and should avoid imposing controls or restrictions on business, or uncertainties in their assessment.

"Preferably, the basic structure of Federal tax laws should be fixed and should remain unchanged for lengthy periods of time, with revenue requirements being met by changes of rate within this structure. Then taxpayers would be enabled to make future commitments with reasonable certainty.

"Once the Federal tax structure is fixed, states and their subdivisions can adjust their laws so as to avoid the present maze of duplicate and overlapping taxes to which both the Federal and state governments have contributed. It should be possible, also, to clarify the laws so as to avoid expensive controversies resulting from uncertainties as to interpretation or conflicts between taxing jurisdictions. We are fully in accord with proposals for the creation of a commission to

make a broad study of the problems here referred to.

"We would particularly point out that not only are strict economies in Government operations essential to lessening the burdens of taxation, both State and Federal, but also the withdrawal of pressure on governments by special groups among our citizens urging the expenditure of huge sums for non-essential projects. A large volume of these demands for expenditures are made upon the Federal Government for local purposes which should be borne, if warranted at all, by the state and political subdivisions to which they pertain. We recommend, however, a larger degree of restraint in respect to all such demands.

"We again call the attention of the American people to the seriousness of mounting public expenditures, both local and Federal, and again remind them of the fact that the resulting indebtedness eventually must be repaid by all of the people.

"Taxes should be paid by all who are able to pay them, but rates should not be so high as to stifle initiative or to hinder business activity and contribute to unemployment. The law of diminishing returns still stands. Also, full consideration should be given to equitable measures for progressively narrowing and finally closing avenues of escape from sharing the tax burden which still remain open in certain directions. Continuance of individual freedom in this nation brings to every resident of the United States an obligation willingly to contribute through taxes to the financial support of our government."

### DETAILED BANK RESOURCES AND LIABILITIES

The latest available comprehensive official figures for all classes of banks, showing detailed schedules of assets and liabilities, are those given by the Comptroller of the Currency for June 30, 1939 (see table p. 377).

### SAVINGS IN AMERICAN BANKS

The amount of savings, including time deposits and postal savings deposited in banks in the United States,

# BANKING AFFAIRS

## STATEMENT OF ASSETS AND LIABILITIES OF ALL BANKS, JUNE 30, 1939

(Amounts in thousands of dollars)

	Total All Banks	National Banks	All Banks Other Than National
Number of banks.....	15,146	5,209	9,937
<b>Assets</b>			
Loans on real estate.....	\$ 8,914,452	\$ 1,829,163	\$ 7,085,289
Other loans, including overdrafts.....	12,601,827	6,744,540	5,857,287
Total loans.....	\$21,516,279	\$ 8,573,703	\$12,942,576
U. S. Government securities:			
Direct obligations.....	15,223,316	6,899,885	8,323,431
Guaranteed obligations.....	3,567,515	1,869,844	1,697,671
Obligations of States and political subdivisions (in- cluding warrants).....	3,902,702	1,693,684	2,209,018
Other bonds, notes, and debentures.....	4,970,207	1,864,354	3,105,853
Corporate stocks, including stock of Federal Reserve banks.....	722,028	225,119	496,909
Total investments.....	\$28,385,768	\$12,552,886	\$15,832,882
Currency and coin.....	1,042,408	530,580	511,828
Balances with other banks, including reserve balances	19,584,188	10,544,226	9,039,962
Bank premises owned, furniture and fixtures.....	1,271,978	609,146	662,832
Real estate owned other than bank premises.....	1,112,556	141,239	971,317
Investments and other assets indirectly representing bank premises or other real estate.....	167,851	70,417	97,434
Customers' liability on acceptances.....	124,319	51,656	72,663
Interest, commissions, rent and other income earned or accrued but not collected.....	158,159	60,552	97,607
Other assets.....	237,814	46,173	191,641
Total assets.....	\$73,601,320	\$33,180,578	\$40,420,742
<b>Liabilities</b>			
Deposits of individuals, partnerships, and corpora- tions:			
Demand.....	\$25,688,845	\$13,643,678	\$12,045,167
Time.....	25,137,529	7,665,426	17,472,103
U. S. Government and postal savings deposits.....	866,950	543,258	323,692
Deposits of States and political subdivisions.....	3,784,243	2,290,992	1,493,251
Deposits of banks.....	8,242,487	4,882,437	3,360,050
Other deposits (certified and cashiers' checks, etc.)..	856,640	443,678	412,962
Total deposits.....	\$64,576,694	\$29,469,469	\$35,107,225
Bills payable, rediscounts, and other liabilities for borrowed money.....	26,724	3,540	23,184
Acceptances executed by or for account of reporting banks.....	143,807	57,636	86,171
Interest, discount, rent, and other income collected but not earned.....	67,294	35,273	32,021
Interest, taxes, and other expenses accrued and un- paid.....	96,710	45,978	50,732
Other liabilities.....	395,883	179,170	216,713
Total liabilities.....	\$65,307,112	\$29,791,066	\$35,516,046
<b>Capital Accounts</b>			
Capital notes and debentures.....	150,474	....	150,474
Preferred stock.....	420,658	246,573	174,085
Common stock.....	2,588,964	1,316,383	1,272,581
Surplus.....	3,551,706	1,170,822	2,380,884
Undivided profits.....	988,582	449,352	539,230
Reserves and retirement account for preferred stock and capital notes and debentures.....	593,824	206,382	387,442
Total capital accounts.....	\$ 8,294,208	\$ 3,389,512	\$ 4,904,696
Total liabilities and capital accounts.....	\$73,601,320	\$33,180,578	\$40,420,742



## X. BUSINESS AND FINANCE

increased measurably during the year ended June 30, 1939, according to reports received by the Savings Division, American Bankers Association. Savings rose from \$24,626,000,000 on June 30, 1938 to \$25,081,000,000 on June 30, 1939, an increase of \$455,000,000, or 1.85 per cent. The number of savings depositors grew from 44,549,000 to 45,420,000. The gain in deposits was general throughout the United States, there having been a recession in only six states—Kentucky, Montana, North Carolina, North Dakota, Vermont, and West Virginia. The per capita savings for the country was \$195, or \$4 above 1938. The adjoining tabulation gives the savings picture during five years.

### THE AMERICAN BANKERS ASSOCIATION

The American Bankers Association, the national organization of banking, including in its membership some 13,500 out of the approximately 15,100 state commercial, national and savings banks, and trust companies, held its sixty-fifth annual convention at Seattle, Wash. in September, 1939.

Atlantic City, N. J. was designated for the holding of the 1940 conven-

### SUMMARY OF SAVINGS DEPOSITS AND DEPOSITORS

(including Time Certificates and Postal Savings)

Year	Total Savings Deposits	Per Inhabitant Savings Deposits	Total Number Savings Depositors
	(000 omitted)		
1935	\$22,614,024	\$179	41,315,206
1936	23,463,585	183	42,396,712
1937	24,491,957	191	44,226,178
1938	24,625,514	191	44,548,914
1939	25,080,947	195	45,419,846

tion. The general officers of the Association elected for 1939-40 were: President, Robert M. Hanes, president, Wachovia Bank and Trust Company, Winston-Salem, N. C.; First Vice President, P. D. Houston, chairman of the Board, American National Bank, Nashville, Tenn.; Second Vice President, H. W. Koeneke, president, The Security Bank of Ponca City, Ponca City, Okla.; Treasurer, B. Murray Peyton, president, The Minnesota National Bank, Duluth, Minn.; Executive Manager, Dr. Harold Stonier, American Bankers Association, 22 East 40 Street, New York, N. Y.

## TRUST BUSINESS

BY GILBERT T. STEPHENSON

GRADUATE SCHOOL OF BANKING, AMERICAN BANKERS ASSOCIATION

### TRUST INSTITUTIONS

As of March 29, 1939, there were in the United States 3,014 trust institutions. Of these, 1,383 were state-chartered banks and trust companies, 1,417 national banks, and 214 trust branches. The greatest number of trust institutions was in Pennsylvania (414), New York (309), New Jersey (211), and Indiana (193). Branch trust business is confined largely to California (126 trust branches), New York (20), North Carolina (12), and Washington (11), these four states having 169 of the 214 trust branches.

### TRUST MEN AND WOMEN

There are 7,072 men and women in official capacities who are engaged in the trust business for their life work. In addition to these who hold official position, there is the much larger number of persons without official title who are employed in trust institutions.

### TRUST ASSOCIATIONS

Of the 68 trust associations, 39 are state organizations (20 trust divisions or sections of state bankers association, 11 statewide trust associations, and eight trust committees of state

## TRUST BUSINESS

bankers associations), five are district organizations, three are county organizations, and 20 are city organizations.

The national trust association is the Trust Division of the American Bankers Association, with headquarters at 22 East 40 Street, New York City. The present officers of the Trust Division are President, Roland E. Clark, National Bank of Commerce, Portland, Me.; Vice President, Carl W. Fenninger, Provident Trust Company, Philadelphia; Chairman of Executive Committee, Richard G. Stockton, Wachovia Bank and Trust Company, Winston-Salem, N. C.; Secretary, Merle E. Selecman, American Bankers Association, 22 East 40 Street, New York.

### TRUST LEGISLATION

During 1939 some further progress was made in the codification of trust law. North Carolina adopted a trust code, comparable with the trust code of Louisiana adopted in 1938 and with the trustee acts of England, of the Provinces of Canada, and of other common-law countries. The Uniform Principal and Income Act was adopted in Alabama, Connecticut, and Maryland. The Uniform Common Trust Fund Act was adopted in North Carolina.

In the field of corporate trust work the outstanding event of the year was the adoption by Congress, after more than two years of study and discussion, of the Trust Indenture Act of 1939 regulating trusteeship under bond issues. This act was signed by the President Aug. 3, 1939, and becomes operative Feb. 3, 1940.

### TRUST STATISTICS

Figures giving totals or percentages for state-chartered banks and trust companies for the whole country are not available. For the trust departments of national banks the latest available figures are those in the report of the Comptroller of the Currency for the year ended Oct. 31, 1938. Of the 5,245 national banks in the United States, 1,905 are authorized to exercise trust functions; of the 1,905, 1,543 had active trust

departments; these 1,543 were administering 135,655 individual (as distinguished from corporate) trust accounts with assets (it is known that these figures are compiled by a variety of methods of bookkeeping and that they include types of accounts which really are not pure trust accounts) aggregating \$9,419,017,042. Of these 1,543 active trust departments, 787 were administering 17,109 corporate trust accounts under which the outstanding bonds and notes amounted to \$10,218,406,672. Of the 152,764 trust accounts (individual and corporate combined), 68,905 or 45.11 per cent were private or living trusts; 66,750 or 43.69 per cent, court trusts; and 17,109 or 11.20 per cent corporate trusts. Private trust property comprised \$7,455,878,977 or 79.16 per cent of the total; court trust property, \$1,963,138,065 or 20.84 per cent of the total. Of the \$8,059,393,406 of invested trust funds, 48.62 per cent were in bonds, 32.15 per cent in stocks, 7.08 per cent in real estate mortgages, 7.38 per cent in real estate, and 4.77 per cent in miscellaneous assets.

### TRUST EDUCATION

During the school year, 1938-1939, 35 chapters of the American Institute of Banking offered courses of study in trust business. These courses were taken by 1,226 students who were, mostly, employees in the trust departments of banks and trust companies. During the same period The Graduate School of Banking of the American Bankers Association offered courses of study in trust business and trust law to 190 officers or to men holding a position equivalent to that of an officer.

### TRUST LITERATURE

To trust-business literature, in addition to that which appeared in current periodicals, there were two outstanding contributions during the year. One was the *Handbook on Common Trust Funds* published by the Trust Division of the American Bankers Association. The other was a book entitled *Trust Examination* by Edwin P. Neilan, published by

## X. BUSINESS AND FINANCE

the Research Council of the American Bankers Association. Attention should be called to a new English book on trust business—*Executorships and Trusts* by J. H. Phillips and G. E. M. Jenkins, both connected with the Trustee Department of the Westminster Bank, London. The book was published by Sir Isaac Pitman and Sons, Limited, London. It is the textbook of the courses in Trusts of the English Institute of Bankers.

In the field of trust-law literature an outstanding event was the publication of Scott on Trusts. (The *Law of Trusts* by Austin Wakeman Scott, Dane Professor of Law in Harvard University, 4 vols., 2,981 pages, Little, Brown and Company, Boston.)

### TRUST CONFERENCES

During the year there were four trust conferences—one national and three regional—besides a large number of city, county, district, and state trust meetings.

The national trust conference was the 20th Mid-winter Trust Conference held in New York City, Feb. 14-16, 1939, followed on the evening of Feb. 16 by the 28th annual banquet.

Of the regional trust conferences, the first was the 17th Regional Trust Conference of the Pacific Coast and Rocky Mountain States held in Los Angeles, Sept. 19-20; the second, the tenth Mid-Continent Trust Conference held in Chicago, Oct. 26-27; and the third, the sixth New England Trust Conference held in Boston, Dec. 8.

### TRUST INVESTMENT

As regards the investment of trust funds, one of the most significant events of the year was the adoption by the Legislature of Connecticut of a new trust-investment statute which is, to all intents and purposes, a codification of the Massachusetts Rule as first enunciated more than 100 years ago in the case of *Harvard College v. Amory*. The new Connecticut Statute is as follows: "Trust funds unless otherwise provided in the instrument creating the trust may

be invested in such real estate mortgages as the savings banks in this state may be authorized by law to invest in, or may be deposited in savings banks incorporated by this state or in the savings departments of state banks and trust companies located in this state or may be invested or reinvested in any bonds or stocks or other securities selected by the trustee with the care of a prudent investor." Any bonds purchased by a trustee under authority of this section may, in the discretion of the trustee, be in coupon form. (Chapter 228, amending Section 4836 as amended by Section 776d.)

Another noteworthy event in the same field was the establishment by the Girard Trust Company of Philadelphia, as of Dec. 1, 1939, of two common trust funds to be operated in accordance with Section 169 of the Federal Revenue Act of 1938 and Section 17 of Regulation F—Trust Powers of National Banks. Already there are eight states—Delaware, Indiana, Kentucky, Louisiana, Minnesota, New York, Ohio, and Pennsylvania—which have enabling acts authorizing the establishment of common trust funds, and such funds are known to be in operation in Delaware, Minnesota, New York, and Pennsylvania.

### WORD "TRUST" AS APPLIED TO TRUST BUSINESS

The word "trust" is being used in so many senses utterly foreign to trust business that on Sept. 25, 1939, at the annual meeting in Seattle, Wash., the Executive Committee of the Trust Division of the American Bankers Association, on the recommendation of the Division's Committee on Trust Policies, adopted the following statement on the subject: "The term 'trust' is being used with increasing frequency to describe relationships that are not fiduciary in character and therefore have nothing to do with trust business. This misuse of the term is producing confusion in the public mind as to what really is trust business. Recently this has been noticeable in the misuse of the term 'common trust fund'

## FOREIGN EXCHANGE

in connection with collective investment. It is highly desirable that the term 'trust' be restricted to fiduciary relationships and the term 'common

trust fund' to funds established and operated in accordance with the provisions of the Federal Revenue Act and of Regulation F."

## FOREIGN EXCHANGE

By MARCUS NADLER

PROFESSOR, NEW YORK UNIVERSITY

### GENERAL

The year 1939 was an eventful one, and in its course foreign exchange rates, which reflect in part the economic and financial relations of countries, were subject to great changes. The year was marked by a sharp decline in terms of the dollar of the currencies of France and all British Empire countries, including Canada. It witnessed the introduction of foreign exchange restrictions in a number of countries. It also was marked

middle of August when the political situation in Europe became very serious, the Exchange Equalization Account withdrew its support of the pound sterling, and the currency declined very rapidly. With the outbreak of actual hostilities, the pound sterling and all the sterling currencies showed a further sharp decrease. The movement of the leading sterling bloc currencies, including the Canadian dollar and the French franc, may be seen from the following table:

### MOVEMENT OF STERLING BLOC CURRENCIES

(in cents per unit of foreign currency)

1939	Canada Dollar	French Franc	Japan Yen	South Africa Pound	New Zealand Pound	United Kingdom Pound
January.....	99.194	2.6369	27.205	462.22	373.59	466.94
February....	99.502	2.6471	27.297	463.83	374.84	468.57
March.....	99.583	2.6488	27.300	463.74	374.78	468.54
April.....	99.483	2.6478	27.274	462.80	374.41	468.05
May.....	99.620	2.6487	27.277	463.11	374.42	468.13
June.....	99.773	2.6493	27.284	463.32	374.60	468.24
July.....	99.835	2.6488	27.279	463.28	374.49	468.15
August.....	99.494	2.6137	26.870	456.10	368.82	461.07
September...	91.255	2.2651	23.459	394.57	319.75	399.51
October.....	89.330	2.2726	23.510	396.12	320.81	401.05
November...	87.755	2.2246	23.440	397.15	313.96	392.47
December...	87.615	2.2269	23.441	397.41	315.03	393.01

by the broadening of the dollar bloc and the continued large inflow of gold to the United States.

### THE STERLING BLOC

The movement of the various currencies which adhered to the pound sterling and their relationship to the dollar showed two distinct trends. To about the middle of August, the relationship of the pound sterling and all other currencies of the sterling bloc to the United States dollar remained more or less stable. However, in the

The French franc must definitely be considered as a part of the sterling bloc because, even prior to the outbreak of the war, the franc was pegged to the pound sterling. With the war in progress, such close co-operation has been established between the two western democracies that their currencies move in perfect unison.

The outbreak of the war in September 1939 was accompanied by the introduction of numerous foreign exchange restrictions in all British



## X. BUSINESS AND FINANCE

countries and in France. Since that time, the transfer of funds from Great Britain and Canada to the United States has been made subject to the supervision of the banking authorities. This applies equally to the transfer of foreign securities of a number of countries held by nationals of the belligerents.

With the imposition of foreign exchange restrictions, two types of pound are now available. The official rate for the pound is quoted at between \$4.02½ and \$4.03½ and applies to such transactions as are approved by the British monetary authorities. On the other hand, the open market

### THE DOLLAR BLOC

When Great Britain permitted the pound to decline, a number of countries, which previously had pegged their currency to the pound, did not follow suit. This applies particularly to Norway, Sweden, Japan, and several South American countries, notably the Argentine. With the decline of the pound, the monetary authorities of these countries dissociated their currencies from the pound and pegged them to the United States dollar. The movement of these currencies in relationship to the dollar can be seen from the following table:

### MOVEMENT OF DOLLAR BLOC CURRENCIES

(in cents per unit of foreign currency)

1939	Norway Krone	Sweden Krona	Japan Yen	Argentina Peso	Colombia Peso	Cuba Peso	Brazil Official Milreis
January...	23.459	24.041	27.205	31.126	57.055	99.932	5.8598
February...	23.539	24.133	27.297	31.236	56.990	99.933	5.8602
March....	23.539	24.130	27.300	31.234	56.983	99.932	5.8647
April.....	23.515	24.111	27.274	31.207	56.982	99.936	5.8595
May.....	23.519	24.100	27.277	31.210	57.009	99.942	....
June.....	23.524	24.107	27.284	31.217	57.169	99.949	6.0585
July.....	23.520	24.114	27.279	31.211	57.036	99.950	6.0571
August....	23.376	24.002	26.870	31.116	57.061	99.950	6.0579
September.	22.655	23.763	23.459	....	57.068	....	6.0594
October...	22.697	23.792	23.510	29.770	57.151	....	6.0575
November.	22.703	23.798	23.440	29.772	57.206	....	6.058
December.	22.701	23.796	23.441	29.7732	57.022	....	6.058

rate of the pound, which has fluctuated more or less widely, relates to transactions which fall outside of the scope of the foreign exchange regulations of the British authorities.

Before the outbreak of the war, there was a considerable outflow of foreign funds from Great Britain, particularly to the United States. With the introduction of foreign exchange restrictions in the London market, the pound became less suitable as an instrument for settling international balances, and more funds were transferred to the United States. This in part explains the weakening of the "free" pound in the open market during October and November of 1939, in spite of the fact that the rate of the official pound remained unchanged.

Various factors have contributed to the broadening of the dollar bloc. In the first place, the United States is the only leading country where no foreign exchange restrictions exist and where funds can be withdrawn without permission from the Government. Second, it is quite obvious that, with the huge amount of gold in this country, the United States Government is not likely to impose any restrictions on the exportation of the yellow metal and that licenses for the exportation of gold will be granted by the Treasury any time foreigners are desirous of drawing gold from this country. During 1939, however, there was no occasion for the withdrawal of gold from the United States. Finally, the Scandinavian countries realize that, if their currencies had

## FOREIGN EXCHANGE

declined to the same extent as the pound, this would have resulted in a material increase in commodity prices, a development which they are trying to prevent. The influence of the dollar in the international exchange markets has now been markedly extended. Whether or not this will lead to an increased use of the dollar as a means of settling international balances and of financing international trade, still remains to be seen. Thus far, however, the volume of dollar acceptances arising out of exports and imports has not shown any appreciable increase.

### THE OUTLOOK FOR BELLIGERENT CURRENCIES

The outlook for the currencies of the belligerent nations is very difficult to predict. Based on factors as they exist at the present time, however, the following conclusion may be drawn with regard to the currencies of the belligerents. During the war, Great Britain in all probability will endeavor to maintain the pound at its present official rate of \$4.00. In the first place, this enables Great Britain to buy large quantities of commodities in non-sterling countries without paying a materially higher price for them. Second, since Great Britain depends to a considerable extent on revenues derived from foreign investments, any further decline in her currency, particularly if accompanied by an increase in prices in terms of the pound, constitutes a national loss to Great Britain. Finally, Great Britain has the means with which to maintain the pound at the present official rate. Not only have the nationals of the British Empire and France large amounts of bank balances in New York and large amounts of American securities which could be mobilized by the respective governments, but also their gold holdings are substantial. In addition, the British Empire produces about \$750,000,000 of gold annually. Since it is to the interest of Great Britain to maintain the pound at its present level for the duration of the war and since Great Britain is capable of supporting the pound during the conflict,

one may assume that for the duration of the war no major fluctuations will take place in the official rate of the pound sterling.

What the value of the belligerent currencies in terms of the United States dollar will be after the war is a question which can not be answered at this time for it will depend primarily on the amount of public debt accumulated as a result of the war and on the price level prevailing in the respective countries. The greater the amount of debt outstanding, the more it will be to the interest of the belligerents to have a higher price level, that is, a greater national income expressed in terms of local currency, in order to make the debt burden lighter. What effect a lower pound will have on economic conditions of the United States and on commodity prices expressed in terms of dollars is unpredictable.

### THE GOLD MOVEMENT

During 1939 the monetary stock of gold of the United States rose from \$14,527,531,000 to \$17,643,450,000, an increase of \$3,115,919,000. This is a far greater amount than the total world production of the yellow metal, an indication that the gold coming to the United States was lost by foreign central banks and stabilization funds. In addition, at the end of the year the United States had over \$1,000,000,000 of earmarked gold for the account of foreign central banks.

In spite of the fact that foreign nations have large balances in the United States, they continue to ship gold to this country. The reason for this action is not difficult to explain. In the first place, foreign balances kept in the United States can be readily converted into gold should the necessity arise. Hence, foreign countries have nothing to lose by converting their gold into American dollars. Second, there is a prevalent fear that sooner or later the United States Government may not be willing to accept all the gold shipped to this country. The placing of an embargo on the importation of foreign gold, however, would be tantamount to the

## X. BUSINESS AND FINANCE

demonetization of the yellow metal, and such a measure is not to be expected. More warranted is the belief that the Secretary of the Treasury of the United States may increase the service charge on handling gold, thus reducing the proceeds in dollars of the sale of gold by foreigners. Under such circumstances, one can readily see why foreigners continue to ship gold in lieu of using their balances in this country. In all probability, foreign governments will continue to transfer gold to the United States with the result that the amount of gold in this country will continue to rise. This will make for a greater volume of deposits, a further increase in the excess reserve balances, and increased difficulty on the part of the monetary authorities in the United States to regulate the money market.

The ultimate effect of the huge ac-

cumulation of gold in the United States will depend primarily on future developments. If, at the conclusion of the war, the world resumes more or less normal international financial relations, then in all probability a redistribution of gold will occur, depending primarily upon the willingness of the United States to place some of its gold stock at the disposal of other countries. If, however, as a result of the impoverishment of the various belligerents, clearing arrangements and barter trade become the customary methods of carrying on international trade, the demonetization of gold is a distinct possibility. In the meantime, however, it is almost certain that gold will continue to come to the United States, with the stock of the yellow metal approximately \$20,000,000,000 by the end of 1940.

### FOREIGN TRADE

BY ROLAND L. KRAMER

PROFESSOR, UNIVERSITY OF PENNSYLVANIA

#### VOLUME AND VALUE

Foreign trade in 1938 was lower in value than in 1937, the decline in imports being particularly drastic. The total value of \$5,055,000,000 compared with \$6,433,000,000 in 1937. Total exports amounted to \$3,094,000,000, a decrease of 7.6 per cent in value but only .2 per cent in volume. However, general imports, with a value of \$1,961,000,000 were 36.4 per cent less in value and 27.7 per cent in volume. Compared with the depression low in 1932, exports showed a recovery of 92.1 per cent and imports 48.2 per cent. On a basis of 1929 foreign trade, however, exports were 41 per cent lower and imports 55.4 per cent.

The "favorable" or export balance of trade amounted to \$1,134,000,000 against \$265,000,000 in 1937. Net gold imports again exceeded \$1,000,000,000 and recorded a value of \$1,974,000,000. Net silver imports were valued at \$223,000,000 compared with \$80,000,000 in 1937.

#### FOREIGN TRADE FOR ELEVEN MONTHS, 1939

For the 11-month period, January-November, 1939, exports were \$2,809,725,000 and imports \$2,071,193,000, creating an export balance of \$738,532,000. Net imports of gold reached the unprecedented figure of \$3,122,978,000, while silver imports amounted to \$67,769,000.

#### EXPORT TRADE FOR TEN MONTHS, 1939

Total exports for the period January-October, 1939, declined 2 per cent from the level of total exports in the ten-months period of 1938, while general imports showed an increase of 14 per cent. Total exports recorded a value of \$2,517,000,000 compared with \$2,573,000,000 in the 1938 period. General imports reached a value of \$1,836,000,000 against \$1,613,000,000. The excess of total exports over general imports amounted to \$681,000,000, a reduction from \$960,000,000 in the ten-months period of 1938. Net

# FOREIGN TRADE

## EXPORTS, IMPORTS, AND BALANCE OF TRADE OF THE UNITED STATES

(Values in Millions of Dollars. Data Cover Years Ended June 30 through 1915; Thereafter, Calendar Years)

Yearly Average or Year	Merchandise						Excess of Exports (+) or Imports (-)			
	Exports			General Imports	Im- ports for Con- sump- tion	Per- Cent General Imports were of Total Exports	Mer- chan- dise	Gold	Silver	Mer- chandise, gold, and silver
	Total	United States Mer- chan- dise	Reex- ports of Foreign Mer- chan- dise							
1910-14	2,166	2,130	35	1,689	1,678	78.0	+477	+17	+20	+515
1921	4,485	4,379	106	2,509	2,557	55.9	+1,976	-667	-12	+1,297
1922	3,832	3,765	67	3,113	3,074	81.2	+719	-238	-8	+473
1923	4,167	4,091	77	3,792	3,732	91.0	+375	-294	-2	+79
1924	4,591	4,498	93	3,610	3,575	78.6	+981	-258	+36	+759
1925	4,910	4,819	91	4,227	4,176	86.1	+683	+134	+35	+852
1926	4,809	4,712	97	4,431	4,408	92.1	+378	-98	+23	+303
1927	4,865	4,759	107	4,185	4,163	86.0	+681	-6	+21	+695
1928	5,128	5,030	98	4,091	4,078	79.8	+1,037	+392	+19	+1,448
1929	5,241	5,157	84	4,399	4,339	83.9	+842	-175	+19	+686
1930	3,843	3,781	62	3,061	3,114	79.6	+782	-280	+11	+514
1931	2,424	2,378	46	2,091	2,088	86.2	+334	-145	-2	+186
1932	1,611	1,576	35	1,323	1,325	82.1	+288	+446	-6	+729
1933	1,675	1,647	28	1,450	1,433	86.5	+225	+173	-41	+358
1934	2,133	2,100	33	1,655	1,636	77.6	+478	-1,134	-86	-742
1935	2,283	2,243	40	2,047	2,039	89.7	+235	-1,739	-336	-1,839
1936	2,456	2,419	37	2,423	2,424	98.6	+33	-1,117	-171	-1,254
1937	3,349	3,299	50	3,084	3,010	92.1	+265	-1,586	-80	-1,400
1938	3,094	3,057	37	1,961	1,950	63.4	+1,134	-1,974	-223	-1,063

imports of gold rose to the enormous figure of \$2,955,000,000 compared with \$1,555,000,000 in the ten-months period of the preceding year. Net silver imports were \$64,000,000 compared with \$179,000,000.

**Commodity Groups.**—According to commodity groups, the major changes in the export trade were the substantial decline in exports of crude food-stuffs, a large recession in shipments of crude materials, and increases in the three other groups. Finished manufactures recorded an improvement of 5 per cent and comprised 53.7 per cent of domestic exports. Nearly all major groups in the finished manufactures bracket shared in the increase. Machinery exports were slightly higher at \$415,200,000, the principal gain being in industrial machinery. Shipments of agricultural machinery declined. Automobiles,

parts, and accessories fell slightly to \$209,000,000 but refined petroleum advanced over 3 per cent with lubricating oil improving 17 per cent. Exports of aircraft gained 40 per cent to a value of \$81,200,000. Additional commodities sharing in the improvement in the finished manufactures group were cotton manufactures, iron and steel advanced manufactures, rubber and manufactures, paper and manufactures, medical and pharmaceutical preparations, and pigments, paints, and varnishes. Shipments of photographic and projection goods were somewhat reduced.

**Semi-Manufactures.**—Exports of semi-manufactures advanced 15 per cent, showing the greatest improvement among the export commodity groups. Iron and steel mill products contributed a substantial part of this advance with a gain of 14 per cent.



## X. BUSINESS AND FINANCE

### FOREIGN TRADE IN MERCHANDISE BY ECONOMIC CLASSES

(Values in millions of dollars. Import data are "general" imports through 1933, except 1933 in italics; the latter and succeeding years are "imports for consumption." Data cover years ended June 30 for 1910-14, all other are calendar years.)

Yearly Average or Year	Total Value	Crude Materials		Crude Foodstuffs		Manufactured Foodstuffs <sup>1</sup>		Semi- Manufactures		Finished Manufactures	
		Value	Per Cent	Value	Per Cent	Value	Per Cent	Value	Per Cent	Value	Per Cent

#### EXPORTS OF UNITED STATES MERCHANDISE

1910-14	2,130	713	33.5	127	5.9	295	13.8	342	16.0	654	30.7
1921	4,379	984	22.5	673	15.4	685	15.7	410	9.4	1,627	37.1
1922	3,765	988	26.3	459	12.2	588	15.6	438	11.6	1,292	34.3
1923	4,091	1,208	29.5	257	6.3	583	14.3	564	13.8	1,478	36.1
1924	4,498	1,333	29.6	393	8.7	573	12.8	611	13.6	1,588	35.3
1925	4,819	1,422	29.5	318	6.6	574	11.9	662	13.7	1,843	38.3
1926	4,712	1,261	26.8	335	7.1	503	10.7	656	13.9	1,957	41.5
1927	4,759	1,193	25.1	421	8.8	463	9.7	700	14.7	1,982	41.6
1928	5,030	1,293	25.7	295	5.9	466	9.3	716	14.2	2,260	44.9
1929	5,157	1,142	22.2	270	5.2	484	9.4	729	14.1	1,532	49.1
1930	3,781	829	21.9	179	4.7	363	9.6	513	13.6	1,898	50.2
1931	2,378	567	23.8	127	5.3	247	10.4	318	13.4	1,120	47.1
1932	1,576	514	32.6	89	5.7	152	9.7	197	12.5	624	39.6
1933	1,647	591	35.9	48	2.9	155	9.4	237	14.4	617	37.4
1934	2,100	653	31.1	59	2.8	168	8.0	342	16.3	879	41.8
1935	2,243	683	30.4	59	2.6	157	7.0	350	15.6	994	44.3
1936	2,419	668	27.6	58	2.4	144	5.9	395	16.3	1,154	47.7
1937	3,299	772	21.9	105	3.2	178	5.4	678	20.6	1,617	49.0
1938	3,057	594	19.4	249	8.1	184	6.0	506	16.5	1,523	49.8

#### IMPORTS

1910-14	1,689	595	35.2	203	12.0	194	11.5	307	18.2	389	23.1
1921	2,509	859	34.2	300	12.0	368	14.7	362	14.4	620	24.7
1922	3,113	1,180	37.9	330	10.6	387	12.4	553	17.8	663	21.3
1923	3,792	1,407	37.1	363	9.6	530	14.0	721	19.0	771	20.3
1924	3,610	1,258	34.0	425	11.8	522	14.4	665	18.2	749	20.8
1925	4,227	1,748	41.4	495	11.7	433	10.2	755	17.9	796	18.8
1926	4,431	1,793	40.5	540	12.2	418	9.4	804	18.1	877	19.8
1927	4,185	1,601	38.3	505	12.1	451	10.8	750	17.9	879	21.0
1928	4,091	1,467	35.8	550	13.4	406	9.9	763	18.6	906	22.2
1929	4,399	1,559	35.4	539	12.2	424	9.6	885	20.2	994	22.6
1930	3,061	1,002	32.7	400	13.1	293	9.6	608	19.9	757	24.7
1931	2,091	642	30.7	305	14.6	222	10.6	372	17.8	549	26.3
1932	1,323	358	27.1	233	17.6	174	13.2	217	16.4	341	25.7
1933	1,450	418	28.8	<sup>2</sup> 216	14.9	<sup>2</sup> 201	13.9	292	20.1	322	22.2
1933 <sup>3</sup>	1,433	420	29.3	215	15.0	191	13.3	290	20.2	317	22.1
1934	1,636	461	28.2	254	15.5	264	16.1	307	18.8	350	21.4
1935	2,039	582	28.6	322	15.8	319	15.6	410	20.1	406	19.9
1936	2,424	733	30.2	349	14.4	386	15.9	490	20.2	466	19.2
1937	3,010	971	32.3	413	13.7	440	14.6	634	21.1	551	18.3
1938	1,950	576	29.6	260	13.3	311	15.9	385	19.7	418	21.4

<sup>1</sup> Includes beverages.

<sup>2</sup> Revised

<sup>3</sup> See headnote.

Sawmill products also increased by the same proportion but shipments of copper, naval stores, and furs were somewhat lower.

Crude materials, with a decline of 16 per cent, comprised 16.4 per cent of domestic exports. Raw cotton shipments fell off nearly 9 per cent

## FOREIGN TRADE

to a value of \$169,200,000 while exports of unmanufactured tobacco dropped nearly 50 per cent to \$67,500,000. Crude petroleum was down nearly 20 per cent but coal and related fuels advanced by practically the same proportion.

**Manufactured foodstuffs** showed a gain of 13 per cent with all major items sharing in the advance. Crude foodstuffs, however, suffered a decline of 57 per cent, due principally to sharp reductions in shipments of wheat and of corn. Wheat exports declined 50 per cent to a value of \$35,500,000 while corn shipments were off 83 per cent to \$15,400,000.

### IMPORT TRADE FOR TEN MONTHS, 1939

**Crude Materials.**—In the import commodity groups, crude materials showed the greatest improvement with a gain of 24 per cent. The only import commodity group displaying a reduction was manufactured foodstuffs. Nearly all items in the crude materials group shared in the advance. Rubber receipts were up 30 per cent; silk imports improved by one-third; furs and manufactures showed a modest gain but wool and mohair more than doubled in value. Hides and skins and crude petroleum also advanced substantially. Unmanufactured tobacco increased slightly. Oilseeds and unmanufactured fibres other than flax or cotton revealed small reductions.

**Semi-Manufactures.**—Imports of semi-manufactures improved 22 per cent and took second place among the commodity import groups. The principal gains in this group were recorded by the metals—tin, nickel, and copper—and by diamonds. Receipts of tin advanced one-third; nickel more than doubled; copper was up modestly; diamonds gained 60 per cent. Imports of paper base stocks were somewhat lower as were vegetable oils, expressed, and sawmill products. Iron and steel mill products and chemicals improved slightly.

**Finished manufactures** gained 5 per cent in the import trade, the principal gain having been recorded in

paper and manufactures, mostly newsprint, with an advance of 13 per cent to a value of \$103,400,000. Receipts of manufactures of cotton and wool were also greater.

**Crude Foodstuffs.**—Imports of crude foodstuffs showed an improvement of 11 per cent but manufactured foodstuffs declined 2 per cent. Receipts of raw sugar were down 13 per cent to a value of \$107,400,000. Cocoa and cacao beans advanced 30 per cent as did spices. Grains and preparations, at \$10,300,000, gained 65 per cent. Other commodities in the group revealed small upward change. Coffee was practically the same figure—\$112,300,000.

### GEOGRAPHICAL DISTRIBUTION OF EXPORT TRADE, TEN MONTHS, 1939

**Europe.**—The 2 per cent decline in total exports was attributable chiefly to a decrease of 7 per cent in shipments to Europe, our principal continental market. The only major European markets revealing an increase were France, Norway, Sweden, and Spain. Germany showed a marked decline of nearly 50 per cent to \$47,400,000. Shipments to the Soviet Union also decreased substantially.

**Latin America.**—Exports to Latin American markets advanced 5 per cent and this area retained the position of second leading world market for United States merchandise. All major Latin American countries increased their purchases but shipments to Argentina were down 30 per cent to \$50,400,000. Mexico, Central American countries and Columbia showed the greatest improvement among Latin American export markets. Brazil gained nearly 20 per cent to a value of \$59,300,000.

**Canada, Asia, Australasia.**—Shipments to Canada were slightly less with a value of \$398,300,000. Markets in Asia showed an improvement of 4 per cent, with gains in British India, Netherlands India, Philippine Islands, and China. The last two countries advanced substantially. Shipments to Japan declined 7 per

## X. BUSINESS AND FINANCE

cent to a value of \$178,400,000. Australia and New Zealand decreased over 15 per cent and African markets remained practically unchanged.

### FOREIGN TRADE BY CONTINENTS AND TRADE REGIONS

NOTE.—Exports include reexports of foreign goods. Data for 1910-14 cover years ended June 30; all other are for calendar years. The Philippine Islands are included in Asia for all years; Turkey in Europe is included in Asia beginning 1928; U.S.R.R. (Russia) in Asia is included in Europe beginning 1935.

(Values in Millions of Dollars)

Yearly Average or Year	Total	North America				South America		Europe		Asia		Oceania		Africa	
		Northern		Southern											
		Value	Per Cent	Value	Per Cent										
Exports 1910-14	2,166	320	14.8	181	8.4	121	5.6	1,350	62.3	121	5.6	48	2.2	25	1.1
1921	4,485	600	13.4	529	11.8	273	6.1	2,364	52.7	533	11.9	113	2.5	73	1.6
1922	3,832	583	15.2	332	8.7	226	5.9	2,083	54.4	449	11.7	102	2.7	56	1.5
1923	4,167	661	15.8	426	10.2	269	6.5	2,093	50.2	511	12.3	146	3.5	61	1.5
1924	4,591	634	13.8	456	9.9	314	6.8	2,445	53.3	515	11.2	157	3.4	70	1.5
1925	4,910	659	13.4	480	9.8	403	8.2	2,604	53.0	487	9.9	189	3.9	89	1.8
1926	4,809	748	15.5	429	8.9	444	9.2	2,310	48.0	565	11.7	213	4.4	101	2.1
1927	4,865	845	17.4	408	8.4	438	9.0	2,314	47.6	560	11.5	194	4.0	107	2.2
1928	5,128	924	18.0	397	7.7	481	9.4	2,375	46.3	655	12.8	180	3.5	117	2.3
1929	5,241	961	18.3	434	8.3	539	10.3	2,341	44.7	643	12.3	192	3.7	131	2.5
1930	3,843	671	17.5	349	9.1	338	8.8	1,838	47.8	448	11.7	108	2.8	92	2.4
1931	2,424	404	16.7	187	7.7	159	6.5	1,187	49.0	380	15.9	42	1.7	60	2.5
1932	1,611	246	15.3	119	7.4	97	6.0	784	48.7	292	18.2	37	2.3	36	2.2
1933	1,675	215	12.8	126	7.5	114	6.8	850	50.7	292	17.4	35	2.1	43	2.6
1934	2,133	308	14.4	178	8.3	162	7.6	950	44.5	401	18.8	57	2.7	77	3.6
1935	2,283	330	14.4	202	8.8	174	7.6	1,029	45.1	378	16.6	74	3.2	96	4.2
1936	2,453	391	16.0	225	9.2	205	8.3	1,040	42.4	399	16.3	79	3.2	114	4.7
1937	3,349	519	15.5	321	9.6	318	9.5	1,359	40.5	580	17.4	99	3.0	152	4.5
1938	3,094	475	15.4	265	8.5	300	9.7	1,326	42.9	517	16.7	93	3.0	118	3.8
General Imports 1910-14	1,689	119	7.0	229	13.5	207	12.2	836	49.5	259	15.3	17	1.0	23	1.3
1921	2,509	338	13.5	417	16.6	296	11.8	765	30.5	618	24.6	35	1.4	40	1.6
1922	3,113	367	11.8	456	14.6	359	11.5	991	31.8	827	26.6	49	1.6	65	2.1
1923	3,792	418	11.0	583	15.4	467	12.3	1,157	30.5	1,020	26.9	59	1.6	87	2.3
1924	3,610	402	11.1	593	16.4	466	12.9	1,096	30.4	931	25.8	49	1.4	73	2.0
1925	4,227	459	10.9	522	12.3	519	12.3	1,238	29.3	1,319	31.2	78	1.8	92	2.2
1926	4,431	486	11.0	526	11.9	568	12.8	1,286	29.0	1,401	31.6	68	1.5	96	2.2
1927	4,185	484	11.6	501	12.0	518	12.4	1,276	30.5	1,257	30.0	55	1.3	93	2.2
1928	4,091	500	12.2	461	11.3	569	13.9	1,249	30.5	1,169	28.6	53	1.3	90	2.2
1929	4,399	514	11.7	467	10.6	640	14.5	1,333	30.3	1,280	29.1	57	1.3	109	2.5
1930	3,061	414	13.5	347	11.3	434	14.2	909	29.7	856	28.0	33	1.1	68	2.2
1931	2,091	277	13.3	240	11.5	307	14.7	640	30.6	574	27.5	19	.9	33	1.6
1932	1,323	181	13.7	157	11.9	201	15.2	389	29.4	362	27.4	8	.6	24	1.8
1933	1,550	191	13.2	127	8.8	202	14.0	462	31.9	426	29.4	13	.9	28	1.9
1934	1,655	238	14.4	161	9.7	229	13.8	489	29.6	490	29.6	15	.9	33	2.0
1935	2,047	293	14.3	201	9.8	281	13.7	599	29.2	605	29.5	26	1.3	42	2.0
1936	2,423	381	15.7	237	9.8	292	12.0	718	29.6	708	29.2	36	1.5	51	2.1
1937	3,084	408	13.2	283	9.2	422	13.7	844	27.3	967	31.4	68	2.2	92	3.0
1938	1,961	268	13.6	223	11.4	262	13.4	567	28.9	569	29.0	16	.8	55	2.8

## FOREIGN TRADE

### GEOGRAPHICAL DISTRIBUTION OF IMPORT TRADE, TEN MONTHS, 1939

**Asia and Europe.**—In the import trade, all continental areas shared in the advance. Receipts from Asia improved 15 per cent with all major countries, with the exception of the Philippines, showing a gain. Japan increased 23 per cent to attain a value of \$123,300,000. Imports from Europe rose 9 per cent, with Belgium, Norway, Switzerland and United Kingdom revealing the greatest increase. Modest improvements occurred in receipts from France, Finland and Greece. Purchases from Germany, Netherlands, Sweden, Italy, and Soviet Union were lower.

**Latin American shipments** to the United States improved 7 per cent. Argentina accounted for a major share of the increase with a gain of nearly 50 per cent to a value of \$47,700,000. Receipts from Mexico, Brazil, Chile, and Venezuela were also larger. Cuba and Colombia showed a decline.

**Canada, Africa, Oceania.**—Imports from Canada rose 30 per cent to a value of \$273,200,000. African shipments to the United States advanced 24 per cent with South Africa accounting for the major portion. Oceania bounded 75 per cent with imports from both Australia and New Zealand improving by this proportion.

### COMMODITY CHARACTER OF 1938 EXPORTS

**Finished manufactures** continued to lead the export commodity groups and comprised 49.8 per cent of the total, compared with 49 per cent in 1937. The group declined, however, to the extent of 5.8 per cent in value and 4.4 per cent in quantity of export trade. Machinery was again the leading commodity export from the United States. Machinery exports were valued at \$486,100,000, which was an advance of 1.5 per cent. Industrial machinery, at \$269,900,000, showed the greatest improvement of 12.2 per cent. Electrical machinery and apparatus declined 9.3 per cent to a value of \$102,200,000. Exports of agricultural machinery and imple-

ments were substantially the same value as in the preceding year—\$75,400,000.

**Refined petroleum products** advanced 9 per cent to record a value of \$276,900,000. Shipments of gasoline rose 31.9 per cent in quantity and 21.9 per cent in value to \$103,500,000; lubricating oil declined 14.1 per cent in volume and 20.4 per cent in value to \$68,900,000; gas and fuel oil rose 31.4 per cent to \$56,400,000; and illuminating oil receded 22 per cent to a value of \$16,200,000.

**Automobiles, parts and accessories** declined 22.1 per cent to a value of \$270,400,000. Exports of passenger cars fell 25.7 per cent to \$100,100,000; and motor trucks 28 per cent to \$72,100,000.

**Aircraft and Others.**—Aircraft, parts and accessories continued to expand, increasing 73.1 per cent to a value of \$68,200,000. Cotton manufactures, including yarn, declined 4.5 per cent to \$57,000,000. Iron and steel advanced manufactures fell 16.9 per cent to \$43,300,000. Rubber manufactures were 15.3 per cent less, recording a value of \$27,200,000; automobile casings, at \$11,300,000, revealed a decline of 14.9 per cent and the quantity was 16.3 per cent less. Paper and manufactures receded 16.6 per cent to \$25,900,000; books and printed matter rose fractionally to \$23,000,000; photographic and projection goods declined 11.8 per cent to \$19,900,000; paints and varnishes, at \$18,700,000, were 13.5 per cent less; and medicinal and pharmaceutical preparations decreased 5 per cent to \$17,100,000.

**Crude Materials.**—Exports of crude materials, declining 7 per cent in volume and 17.7 per cent in value to \$594,000,000, comprised 19.4 per cent of total exports, compared with 21.9 per cent in 1937. Raw cotton lost the position of leading single export commodity and fell 24.2 per cent in quantity and 38 per cent in value to \$228,700,000. Unmanufactured tobacco, at \$155,700,000, recorded an increase of 15.7 per cent and the volume was 12.5 per cent greater. Crude petroleum shipments, valued at \$111,700,000, were 15.9 per cent higher and



## X. BUSINESS AND FINANCE

the quantity was 15.1 per cent greater. Coal and coke declined 17.3 per cent in quantity and 17 per cent in value to \$55,900,000.

**Semi-Manufactures.**—Exports of semi-manufactured goods were 15.5 per cent less in volume and decreased 25.4 per cent in value to \$506,000,000. The group comprised 16.5 per cent of total exports compared with 20.6 per cent in 1937. Iron and steel mill products declined 38.6 per cent to a value of \$184,300,000. Copper rose 20.5 per cent in tonnage but receded 7.3 per cent in value to \$86,800,000. Chemicals decreased 7.6 per cent to \$81,100,000; sawmill products, at \$35,700,000, were 33.6 per cent less. Furs and manufactures declined 20.9 per cent to \$14,100,000. Naval stores, gums and resins fell 44.3 per cent to a value of \$12,300,000; and leather receded 30.6 per cent to \$12,000,000.

**Crude Foodstuffs.**—With the improvement of the agricultural situation in the United States, exports of crude foodstuffs improved substantially. The 1938 export value of this group was \$249,000,000, representing a gain of 191.9 per cent in volume and 138.3 per cent in value. The group comprised 8.1 per cent of total exports, compared with 3.1 per cent in 1937. Exports of wheat continued to improve, rising 149.6 per cent in quantity and 101.9 per cent in value to \$78,100,000. Fruits and nuts, other than canned, increased 24 per cent to \$75,900,000. Dried and evaporated fruits, at \$25,600,000, were 2.9 per cent greater; fresh apples advanced 27.1 per cent to \$14,700,000; and oranges improved 89 per cent to a value of \$15,700,000. Exports of corn, at \$94,500,000, compared with \$3,900,000 in 1937, also aided the improvement in this group of exports. Shipments of barley, grain, and malt rose 6 per cent to \$9,300,000.

**Manufactured foodstuffs** including beverages, with 6 per cent of total exports, also showed improvement of 20.1 per cent in volume and 3.6 per cent in value to \$184,000,000. Packing-house products were 36.2 per cent greater in quantity and 12.8 per cent in value, at \$48,000,000; lard advanced 13.6 per cent to \$18,300,000;

and meat products rose 15.4 per cent to \$28,500,000. Wheat flour exports declined 8 per cent to \$23,200,000, while canned fruits improved 10.3 per cent to a value of \$23,200,000. Canned fish, at \$11,300,000, showed little change.

### COMMODITY CHARACTER OF 1938 IMPORTS

**Crude Materials.**—All import commodity groups shared in the decline in 1938 imports. Crude materials, the leading groups, fell 29.2 per cent in quantity and 40.6 per cent in value to \$576,000,000 and comprised 29.6 per cent of the total compared with 32.3 per cent in 1937. Crude rubber receded 31.5 per cent in tonnage and 47.7 per cent in value to \$129,500,000. Raw silk, at \$88,800,000, was 16.7 per cent less in value and 4.5 per cent in volume. Furs and manufactures fell 46.8 per cent to \$45,800,000. Unmanufactured tobacco, with a slight recession in quantity but an increase of 12.9 per cent in value, was recorded at \$36,000,000. Oilseeds declined 45.3 per cent to \$34,700,000; flaxseed, at \$19,900,000, was 43 per cent less. Hides and skins decreased 41.7 per cent in volume and 57.9 per cent in value to \$29,900,000. Imports of wool and mohair fell 68 per cent in quantity and 76.5 per cent in value to \$22,600,000. Crude petroleum declined 5 per cent in volume and 10 per cent in value to \$18,600,000. Unmanufactured fibres other than flax or cotton decreased 45.3 per cent to \$15,400,000.

**Finished manufactures** moved to second place in the import commodity groups and declined 29.3 per cent in quantity and 24.3 per cent in value to \$418,000,000, which comprised 21.4 per cent of total compared with 18.3 per cent in 1937. Paper and manufactures fell 17.6 per cent to a value of \$113,000,000; and newsprint receded 31.4 per cent in volume and 17.2 per cent in value to \$101,500,000. Cotton manufactures, at \$34,600,000, were 39.1 per cent less; cotton cloth decreased 60.4 per cent in quantity and 52.3 per cent in value to \$6,500,000. Burlaps were off 23.3 per cent in quantity and 31.1 per cent

in value to \$28,300,000. Manufactures of flax, hemp, and ramie decreased 36.9 per cent to a value of \$20,500,000; petroleum, advanced and refined, shrunk 15 per cent in volume and 11.3 per cent in value to \$19,600,000; manufactures of wool, including yarns, receded 44.3 per cent to a value of \$17,800,000; and art works declined 23 per cent to \$16,800,000.

**Semi-Manufactures.**—Imports of semi-manufactures were off 15.5 per cent in quantity and 25.4 per cent in value to \$385,000,000 and comprised 19.7 per cent of total imports. Paper base stocks fell 26.7 per cent to a value of \$86,400,000; wood pulp declined 28.1 per cent in tonnage and 26 per cent in value to \$72,800,000. Chemicals and related products, at \$78,000,000, were 23.9 per cent less. Vegetable oils, expressed, decreased 47.7 per cent to \$58,600,000. Tin bars, blocks, and pigs fell 43.6 per cent in tonnage and 57 per cent in value to \$44,900,000. Copper, including ores and manufactures, receded 9.6 per cent in quantity and 27.9 per cent in value to \$37,900,000. Diamonds, at \$28,300,000, were 35.9 per cent less in value and 27.3 per cent in volume. Sawmill products declined 26.6 per cent to \$19,200,000; iron and steel mill products fell 42.4 per cent to \$13,900,000; and nickel ore, matte, and alloy decreased 45.2 per cent in tonnage and 45 per cent in value to \$13,000,000.

**Foodstuffs.**—Manufactured foodstuffs, including beverages, receded 19 per cent in quantity and 29.4 per cent in value to \$311,000,000 and comprised 15.9 per cent of total. Crude foodstuffs also showed a decline of 22.3 per cent in volume and 37.1 per cent in value to \$260,000,000, thus representing 13.3 per cent of total.

Our leading single import commodity was coffee, with an advance of 17.1 per cent in quantity but a decrease of 8.5 per cent in value to \$137,800,000. Cane sugar was again the second leading import commodity and declined 6.9 per cent in tonnage and 21.6 per cent in value to \$130,400,000. Wines and spirits were off 20.6 per cent to a value of \$57,700,000. All other leading commodities

in the foodstuffs import group showed a decrease, as follows: fruits and nuts 18.1 per cent to \$55,100,000; packing-house products 27.2 per cent to \$30,300,000, including meat products at \$29,800,000, a loss of 25.3 per cent; fish, including shellfish, 16.4 per cent to \$28,300,000; cocoa and cocoa beans, 26.8 per cent in quantity and 61.5 per cent in value to \$20,100,000; tea, 14.2 per cent in volume and 14.3 per cent in value to \$18,300,000; vegetables and preparations, 35.9 per cent to \$16,100,000; dairy products, 24 per cent to \$12,000,000; spices 4 per cent to \$11,000,000; and fodders and feeds, 76.2 per cent to \$3,800,000. Imports of grains, due to the improvement in our agricultural situation, practically disappeared.

## **GEOGRAPHICAL DISTRIBUTION OF 1938 EXPORTS**

**Europe.**—While all continents shared in the decline in export trade in 1938, Europe suffered a smaller decrease than the other continents, viz., 2.5 per cent. The value of exports to Europe was \$1,326,000,000 and comprised 42.9 per cent of total compared with 40.6 per cent in 1937. Five of our leading export markets were in Europe.

Our leading export market, United Kingdom, declined 2.9 per cent to \$521,100,000. France, fourth leading world market, decreased 18.7 per cent to \$133,800,000; and Germany, fifth leading market, fell 14.8 per cent to \$107,600,000. Our sixth leading market, Netherlands, showed an advance of 3.5 per cent to a value of \$96,700,000. Our ninth market, Belgium, declined 19.3 per cent to \$76,900,000.

European countries that showed an increase in 1938, together with the percentage of increase as compared with 1937, were Ireland, 121.7 per cent to \$26,900,000; Spain, 103.4 per cent to \$12,200,000; Czecho-Slovakia (now Germany), 100.2 per cent to \$26,500,000; Soviet Union (U.S.S.R.) 62.5 per cent to \$69,700,000; Denmark, 44.2 per cent to \$24,800,000; Greece, 35.4 per cent to \$8,000,000; Switzerland, 10 per cent to \$10,600,000; and Norway, 1.6 per cent to \$22,500,000.

Similarly, countries showing a de-

crease and the percentage decline from 1937 were Sweden, .3 per cent to \$64,200,000; Finland, 2.2 per cent to \$12,000,000; Poland and Danzig (now divided between Germany and Soviet Russia) 6.1 per cent to \$24,700,000; Italy, 24.2 per cent to \$58,200,000; and Portugal, 27.5 per cent to \$10,900,000.

**Latin America.**—Exports to Latin American markets, composed of Southern North America and South America, decreased 12 per cent to a value of \$564,200,000 and comprised 18.2 per cent of total compared with 19.1 per cent in 1937. Argentina was seventh leading world market for United States merchandise and declined 7.9 per cent to \$86,700,000. Cuba was tenth world market and declined 17.3 per cent to \$76,300,000. Countries that showed an increase and the percentage of improvement are Netherlands West Indies 25.1 per cent to \$42,800,000; Costa Rica, 20.4 per cent to \$5,400,000; Honduras, 13 per cent to \$6,300,000; Venezuela, 12.6 per cent to \$52,300,000; Colombia, 4.3 per cent to \$40,900,000; and Chile, 2.5 per cent to \$24,600,000. Decreases were shown in exports to the following countries: Mexico, 43.3 per cent to \$62,000,000; Brazil, 9.7 per cent to \$61,900,000; Peru, 11.1 per cent to \$16,900,000; Guatemala, 11 per cent to \$6,800,000; and Uruguay, 61 per cent to \$5,000,000.

**Asia.**—Exports to Asiatic markets fell 10.9 per cent to \$516,700,000 and comprised 16.7 per cent of total. Japan was our third leading world market; sales to Japan declined 17 per cent to \$239,600,000. Philippine Islands showed an increase of 1.7 per cent to record a value of \$86,400,000 and gain the position of eighth leading world market for United States merchandise. Other increases in Asiatic markets, together with the percentage of increase, were revealed in Netherlands India, 9.9 per cent to \$27,500,000; Hong Kong, 6 per cent to \$21,300,000; Kwangtung, 6 per cent to \$17,000,000; and British Malaya, fractionally to \$8,800,000. The increase in sales to Hong Kong and Kwangtung are in contrast to a decline of 30 per cent in shipments

to China proper, the value being \$34,700,000. Decreases were also shown in shipments to British India, 18.2 per cent to \$35,700,000; and to Turkey, 11.4 per cent to a value of \$13,200,000.

**Northern North America,** principally Canada and Newfoundland, declined 8.4 per cent to a value of \$475,500,000 and comprised 15.4 per cent of total. Canada was our leading world market and purchased United States merchandise to a value of \$467,600,000.

**Africa.**—African markets decreased 22.3 per cent to a value of \$118,300,000, thus comprising 3.8 per cent of total. British South Africa receded 20.5 per cent to a value of \$72,700,000. Egypt, at \$13,300,000, was 2.9 per cent less; Portuguese Africa fell 26 per cent to \$7,200,000; and British West Africa decreased 46.6 per cent to \$5,300,000.

**Oceania.**—Exports to Oceania declined 5.6 per cent to a value of \$93,400,000 and comprised 3 per cent of total exports. Shipments to Australia were 6.4 per cent less with a value of \$68,800,000; and to New Zealand, 2.2 per cent with a value of \$23,300,000.

#### **GEOGRAPHICAL SOURCES OF 1938 IMPORTS**

**Asia** continued to be the leading continental source of imports, comprising 29 per cent of total and declining 41.1 per cent to a value of \$569,500,000. Five of our ten leading countries in the import trade were in Asia. Japan was the second leading source of imports, supplying \$126,800,000 worth of merchandise, which was 37.9 per cent less than in 1937. Our fourth leading source, British Malaya, declined 53.8 per cent to \$112,300,000. Our seventh leading source was the Philippine Islands, imports from which decreased 25.2 per cent to a value of \$94,200,000. Netherlands India was eighth and receded 40.3 per cent to a value of \$68,700,000. The tenth leading source, British India, was 38.9 per cent less with a value of \$58,500,000.

The only important market in Asia that showed an increase in 1938 was Turkey with an advance of 6.2 per



## FOREIGN TRADE

cent to a value of \$18,900,000. Imports from China were down 54.5 per cent to a value of \$47,100,000; and from Kwangtung, 55.2 per cent to \$1,600,000.

**Europe**, with a value of \$567,100,000, declined 32.8 per cent and comprised 28.9 per cent of total. United Kingdom moved to third place as a world source of imports, in spite of a decrease of 41.7 per cent to a value of \$118,200,000. All European countries of reasonable importance in our import trade showed a reduction in shipments to the United States, with the exception of Finland. Imports from Finland advanced 2.8 per cent to a value of \$18,000,000. All other countries showing a decrease and the percentage of decline from 1937 were: Portugal, 55.7 per cent to \$3,900,000; Denmark, 51.3 per cent to \$3,300,000; Ireland, 48.6 per cent to less than \$1,000,000; Belgium, 44.5 per cent to \$41,700,000; Netherlands, 41.1 per cent to \$31,300,000; Norway, 39.6 per cent to \$15,600,000; Spain, 33.7 per cent to \$9,100,000; Poland and Danzig (now divided between Germany and Soviet Russia), 31.4 per cent to \$13,400,000; Czecho-Slovakia, 29.6 per cent to \$26,200,000 (now Germany); France, 28.8 per cent to \$54,000,000; Germany, 30.2 per cent to \$64,500,000; Soviet Russia (U.S.S.R.) 21.8 per cent to \$24,000,000; Sweden, 23.1 per cent to \$45,100,000; Italy, 14.5 per cent to \$41,200,000; Switzerland, 14.4 per cent to \$23,000,000; and Greece, 13.7 per cent to \$14,800,000.

**Latin America**.—Imports from Latin America declined drastically to \$485,400,000 which represented a reduction of 59.1 per cent from the 1937 level and comprised 24.8 per cent of total. Imports from South American countries decreased more than imports from countries in southern North America, the two areas together comprising Latin America.

Two of the ten leading countries in United States import trade were Cuba and Brazil. Imports from Cuba receded 28.5 per cent to a value of \$105,800,000 which placed Cuba in position as our fifth leading source of import. Brazil, sixth source, decreased 18.8 per cent to a value of \$97,900,000. Haiti alone showed a slight increase as compared with 1937; and but slight decreases were registered in imports from Guatemala and Honduras. All other major areas showed a decline, viz., Argentina, 70.7 per cent to \$40,700,000; Uruguay, 66 per cent to \$4,700,000; Chile, 39.5 per cent to ~~\$28,200,000~~ \$12,800,000; Peru, 22.5 per cent to \$12,800,000; Mexico, 18.5 per cent to \$49,000,000; Venezuela, 12 per cent to \$20,000,000; Colombia, 5.6 per cent to \$49,400,000.

**Northern North America**, with an import value of \$267,600,000, showed a decrease of 34.3 per cent and comprised 13.6 per cent of total. Canada was our leading source of imports, with \$260,300,000, a decline of 34.7 per cent. Newfoundland and Labrador receded 21 per cent to \$6,600,000.

**Africa**.—Imports from African markets fell 40.7 per cent to a value of \$54,600,000, thus comprising 2.8 per cent of total. British South Africa was relatively unchanged at \$19,000,000. British West Africa decreased 68.2 per cent to \$11,300,000. Egypt, with \$4,800,000, was 64.7 per cent less. Algeria and Tunisia fell 8 per cent to \$4,400,000.

**Oceania** suffered the greatest decline among all continents in shipments to the United States. Imports from Oceania declined 76.3 per cent to a value of \$16,200,000, thus comprising only .8 per cent of total imports. Receipts from Australia were 80 per cent less at a value of \$8,700,000; and from New Zealand, 70.5 per cent at a value of \$6,500,000.



## THE EXPORT-IMPORT BALANCE

By AMOS E. TAYLOR

CHIEF, FINANCE DIVISION, DEPARTMENT OF COMMERCE

**GENERAL**

The rate at which foreign gold has moved into the United States during recent years has been a fairly accurate barometer for measuring the explosive potentialities of political developments in Europe. The inward gold movement, which assumed extraordinarily large proportions in the autumn of 1935, when Italy entered upon the Ethiopian venture, and which reacted sensitively to the shifts from one financial and political crisis to another in France during the first nine months of 1936, became highly accelerated at the time of the Munich crisis in September, 1938, and finally during 1939 reflected a flight of capital from Europe of such proportions as only the inevitability of war could induce. As a consequence the net inflow of gold into the United States during 1939 amounted to the unprecedented figure of \$3,039,734,000. This addition from foreign sources to United States gold holdings brought total stocks by the end of the year to approximately \$17,643,000,000, an amount equal to about 60 per cent of the world's entire monetary gold stocks.

The year's net inward gold movement, which was almost twice as large as the previous record inflow of \$1,739,000,000 in 1935, was distinctly the dominant factor in the country's balance of international payments in 1939. That the flight of capital from certain European countries was persistent and of large volume is reflected in the rapid growth of reported foreign-owned bank deposits in the United States which rose from \$1,860,000,000 on Dec. 28, 1938, to \$2,984,000,000 on Sept. 27, 1939.

Since 1934 net gold imports (including earmarking operations) have averaged almost \$1,500,000,000 annually and, with the possible exception of one year, have involved a net annual addition to United States monetary

gold stocks of greater than the world's new production. From 1934 to 1937, inclusive, the annual inward gold movements were influenced largely by the inflow of capital funds for such purposes as "long-term" investment, redemption or sinking-fund purchases of foreign dollar bonds outstanding in this country, or merely for safety. In 1938, when merchandise exports exceeded imports by \$1,133,000,000 and in 1939, when the merchandise export balance was almost \$900,000,000, the net results of the country's visible and invisible transactions required that foreigners employ gold in substantial amount as a means of securing an adequate supply of dollars with which to balance their aggregate international accounts with the United States.

For the sixth consecutive year international capital transactions have resulted in a net inward movement of funds from abroad. During the first nine months of 1939 the reported net capital inflow was approximately \$1,180,000,000. It is not likely that the reported figures for the full year will show, when released by the Treasury Department, any important net change during the last quarter of the year. Foreign-owned bank balances continued to rise after the outbreak of the war but these additions did not represent a corresponding net capital inflow. In addition to the continued inflow of gold, which met not only the demand for dollars necessary for the payment for our export balance but also demands on the part of foreigners eager to transfer their capital funds to this country, the net accumulation of foreign-owned dollar balances was influenced by the slight but steady net liquidation of American securities on the part of British and other foreign holders. The sale on balance of American securities by British holders had gotten under way somewhat irregularly dur-

## THE EXPORT-IMPORT BALANCE

ing the first half of the year and had become quite persistent, though not of very large volume, several months prior to the German invasion of Poland early in September.

### WAR-TIME FACTORS

Although the international capital movements during and after the final quarter of 1938 anticipated the political developments, which after March 1939 headed Europe rapidly toward war, the actual outbreak of war and the early months of hostilities had considerably less effect upon the United States balance of international payments than was generally expected. That capital movements would be checked by special war-time restrictions and controls was, of course, to be expected. On the other hand, merchandise exports did not show any sharp gains after the outbreak of the war. The belligerents had anticipated a great part of their immediate war-time needs through the accumulation of large reserves of basic materials. Moreover, the British and French empires have attained a much higher degree of self-sufficiency than they possessed at the time of the World War.

The Maginot Line has provided French industry with a degree of security which is in sharp contrast with its position in 1914, while dependence on foreign raw materials is materially lessened by the inclusion of Alsace-Lorraine within French territory. It had been nevertheless expected that with the outbreak of hostilities both British and French needs for certain foodstuffs and specialized manufactures would assure an immediate expansion of substantial proportions in United States exports to the allied belligerents. Thus far the nature of the war itself has been such as to minimize the experience of 25 years ago as a guide to belligerent needs. The absence of wastage of materials through action along a wide front has held the consumption of such war materials as shells, railroad equipment, and road-building materials to small proportions. The marked shift of hostilities from land activity to aerial combat was reflected before the end

of the year in the sharp increase in the export of aircraft.

Our tourist expenditures abroad, which normally represent the most important "invisible" import item in the international balance, were not as sharply checked as in 1914 because by the early part of September a larger proportion of our trans-Atlantic travelers had finished their summer vacations abroad than was the case in 1914 when war broke out in the middle of the summer. Furthermore, the long period of anticipation and preparation, which had developed against the background of Munich, prevented the disruption of international security and commodity markets and thus avoided a repetition of the panicky conditions which prevailed during the opening weeks of hostilities 25 years ago.

Only in the case of shipping did the war-time changes introduce factors which involved real dislocations. The restrictions and prohibitions placed upon the operations of American vessels in designated war zones by the executive proclamation issued in accordance with the neutrality legislation tended to reduce the normal earnings of this country's ships for the carriage of American exports and to increase the payments by United States importers to foreign vessels for the carriage of our imports. During the closing months of the year the exports of such American products as airplanes, machine tools, petroleum products, and motor trucks rose to a relatively high level under the influence of heavy demands by the allied belligerents. Although the net effect of these war-time factors on the United States export-import balance was relatively unimportant, it must be noted that capital movements and, to a fair degree, merchandise exports to European countries during the pre-war months had been influenced by anticipated developments and may thus be viewed as having discounted regular war-time transactions.

### THE MERCHANDISE BALANCE

Merchandise exports during 1939 were valued at approximately \$3,-200,000,000 or about the same as in

## X. BUSINESS AND FINANCE

1938. With data for December still incomplete it is estimated that imports amounted to about \$2,300,000,000 or about 17 per cent more than in the preceding year. On a quantity basis exports (including re-exports) were about 5 per cent higher in 1939 than in 1938 while general imports showed a gain of about 15 per cent.

The decline in the year's merchandise export balance from \$1,133,000,000 in 1938 to about \$900,000,000 in 1939 must be attributed, therefore, to an increase in the value of imports rather than to a decline in exports. The improvement in domestic business activity during 1939 after the decline of 1937-38 was, as during other recent years of rising industrial production, accompanied by enlarged purchases of foreign raw materials such as rubber, raw silk, hides, and skins, unmanufactured wool, and various metals.

Although United States merchandise exports were only slightly higher in value in 1939 than in the preceding year, the statistics for the first 11 months of the year indicate that important changes occurred in the shipments of particular commodities. During the January-November period the exports of iron and steel-mill products, metal-working machinery, and aircraft were valued at \$202,000,000, \$104,000,000, and \$88,000,000, respectively, as compared with corresponding values of \$138,000,000, \$91,000,000 and \$63,000,000 in 1938. Exports of chemicals and rubber manufactures were also appreciably higher. The year's rise in export values shown by these items was, however, offset in substantial part by declines in the export values of automobiles and of numerous agricultural products. In general, exports to European "neutrals" and to the majority of non-European countries were higher in 1939 than in 1938 while shipments to the European belligerents were smaller or showed no important change.

### THE SERVICE BALANCE

On the basis of incomplete estimates covering the service transactions during 1939 between the United

States and foreign countries, the dollar value of service exports and imports was approximately the same as in 1938. As already indicated, the effect of neutrality legislation upon ocean shipping tended to increase this country's net payments on shipping account. No sharp change occurred during 1939 on either side of the international tourist account, largely because the summer travel season was not interrupted by war until near the end.

The volume of international interest payments is influenced normally by contractual arrangements while dividend payments tend in general to reflect general business conditions in the areas where the investments are made as well as in areas which trade extensively with the debtor countries. During the early years of the depression interest payments were sharply curtailed by defaults of numerous issues. As a result of exchange restrictions, blocked currencies, and other obstacles to free exchange transfer, the income on American investments abroad accrued frequently in foreign currency accounts only to be involuntarily invested abroad. In these cases the real investment value to the creditor in terms of dollars almost inevitably involved a substantial discounting of the nominal value.

Despite the extraordinarily large volume of international capital movements in 1939 the estimated receipts and payments on international interest and dividend account showed no appreciable changes as compared with the estimates of 1938. The reported net inward capital movement of \$1,179,000,000 during the first nine months of 1939 was largely a shift of foreign funds into foreign-owned dollar bank deposits which rose by more than \$1,000,000,000 from Jan. 4 to Sept. 27. As compared with this heavy inflow of foreign funds seeking safety in balances on which existing banking legislation prohibits the payment of interest, the shifts in investment of potential or actual earning capacity were comparatively small. Estimated interest and dividend receipts of \$549,000,000 and estimated payments on similar account



## THE EXPORT-IMPORT BALANCE

to a total of \$216,000,000 in 1938 are indicative of the ratio which, on an interest and dividend basis, measured the net creditor position of the United States at a time when American investments in foreign countries were estimated at approximately \$11,760,000,000 or only about \$3,875,000,000 more than estimated foreign holdings in the United States. As a result of reported international capital movements during the first nine months of 1939 this creditor margin has been reduced to \$2,750,000,000 even though on an investment-return basis American holdings abroad continued to yield more than twice as much as do total foreign-owned assets in the United States.

### THE GOLD AND SILVER BALANCE

The unprecedented net inflow of \$3,039,734,000 in gold to the United States during 1939 accounts for almost one-third of the \$10,051,000,000 of gold which has entered United States stocks from foreign sources since January, 1934. The actual net imports of gold during the year amounted to \$3,574,151,000 but the net addition of \$534,417,000 in gold earmarked with the Federal reserve banks for foreign account reduced the net acquisition from foreign sources by that amount. As a result of these operations the total gold held under earmark for foreign account at the end of 1939 was \$1,163,004,000.

At certain times during the past six years business developments and prospects in this country have attracted foreign funds, and the consequent demand for dollars brought foreign gold into the country. During 1938 and 1939, as already indicated, the comparatively large merchandise balances contributed to a foreign demand for dollars not supplied in adequate volume by our merchandise and "invisible" imports and, therefore, were met in part by gold shipments from abroad. Nevertheless, the dominant factor which shifted foreign gold to the United States in 1939, as during 1935 and at intervals during other recent years, was the

fear and uncertainty born of political developments abroad.

In view of the conditions under which the provisions of the Silver Purchase Act and subsequent executive orders based thereon have been carried out, gold and silver may appropriately be considered under a single category. Approximately \$1,000,000,000 net of silver has entered the country's stocks from foreign sources since January, 1934, of which the comparatively small total of \$70,000,000 net entered during 1939.

With the exception of 1938 and 1939—two years of very substantial merchandise export balances—the net gold and silver imports may thus be viewed as more or less direct measures of the net capital movements. During the six years 1934-39, the net gold and silver inflow of nearly \$11,000,000,000 was approximately twice as large as the reported net inflow of capital. Since the aggregate net credit balances resulting from merchandise and service transactions (including interest and dividend items) were only about \$2,000,000,000 it follows that at least \$3,000,000,000 of the net gold and silver imports was in effect employed in transactions which are represented in the large residual-item appearing every year since 1934 in the official statement on the country's balance of international payments and thus representing transactions the actual identity of which has not yet been determined.

### THE CAPITAL BALANCE

The reported net inflow of capital funds into the United States during the first nine months of 1939 amounted to approximately \$1,180,000,000 and represented the result of the net accumulation of foreign-owned dollar balances, the net withdrawals by American banks of funds from abroad, the net international shift of brokerage balances, the net resale by foreigners of American securities to investors in this country, and the net purchase by foreigners—for redemption, sinking fund purposes, and investment—of foreign issues held in the United States. In contrast with the movement of short-



term banking funds during 1938, which sharply reversed itself in the middle of the year, the shift of foreign funds into dollar deposits in 1939 continued in the same direction with varying degrees of velocity throughout the year. The result was a gain in the short-term foreign liabilities of American banks by an amount which exceeded the combined movements of 1935 and 1936, the two years during which financial crises in the gold bloc countries, especially in France, produced a flight of capital from Europe to the United States which, while at times interrupted, was at other times of alarming proportions, especially when subjected to the impact of such political developments as the Italo-Ethiopian crisis late in 1935.

The reported net liquidation of \$46,477,000 in American securities by foreigners during the first nine months of 1939 followed a net foreign accumulation of United States corporate stocks and other securities which had continued with only brief interruptions since 1934, a year during which American repurchases of such securities were approximately equal to foreign acquisitions. During 1935, 1936, and 1937 foreign purchases of American equities were influenced by the steady improvement in business in this country and occurred in large volume. Because of a substantial rise in common share values, these purchases accounted for total foreign holdings of "non-controlling" common shares which rose in value (market value) from \$1,202,000,000 at the end of 1934 to \$2,700,000,000 at the end of 1936. That the foreign selling movement during 1939 was dominated by British liquidation is reflected in the fact that the net sales of American securities during the January-September period amounted to \$64,000,000 or \$18,000,000 more than the total amount of net sales by all foreign sellers. Liquidation of American securities was somewhat irregular and coincided, with several exceptions, notably in April, with those political developments abroad which induced the flight of banking funds from Europe to the United

States. During January, when the collapse of the Loyalist defenses in Catalonia, the fall of Barcelona, and the ominous French-Italian situation in the Mediterranean threatened serious political consequences, the London market, and to a minor degree other European markets, liquidated a net amount of \$29,000,000 in American securities while during the same month foreign-owned dollar balances increased by \$90,000,000. After relatively unimportant shifts in capital funds during February the German absorption of Czecho-Slovakia in March produced an extraordinarily sharp decline in American security values in the course of which American issues were resold to this country on balance to the extent of \$12,000,000 while reported foreign-owned dollar balances rose by \$148,000,000 between March 1 and March 29. The Italian occupation of Albania in April appeared to give additional momentum to the inflow of banking funds, with a net addition of \$260,000,000 to foreign-owned dollar deposits, whereas foreign holdings of American securities again increased as a result of steady net buying by all European markets except the German and Italian, both of which continued the slight but steady net liquidation that characterized operations by those two countries throughout the year.

After a month or more of comparative calm, international tension again injected a degree of nervousness into the international markets during June when Germany renewed its earlier demands for the return of Danzig to the Reich. The diplomatic maneuvering of June and July pointed increasingly, by August, to the inevitability of war, and the movement of foreign banking funds to the United States assumed extraordinary proportions. The nervousness in security and exchange markets became accentuated on Aug. 24 when announcement was made that the British Equalization Fund would no longer support the pound sterling. Despite the slight but steady net liquidation of foreign-held American securities during the tense weeks preceding the outbreak of

## FOREIGN TARIFFS AND COMMERCIAL POLICIES

war the major factor in international capital movements was the flight of European capital into American bank balances with safety as the prime objective. With the outbreak of hostilities the British and French Gov-

ernments imposed strict foreign exchange regulations in order that the capital outflow could be halted and also as a means of obtaining control over funds already sent abroad.

### BALANCE OF INTERNATIONAL PAYMENTS OF THE UNITED STATES, 1938-39

(In millions of dollars)

	1938			1939 (preliminary)		
	Receipts (Exports)	Payments (Imports)	Net Receipts (+) or Net Payments (-)	Receipts (Exports)	Payments (Imports)	Net Receipts (+) or Net Payments (-)
Travel and Service Items:						
Merchandise.....	3,094	1,961	+1,133	3,200	2,300	+900
Interest and dividends.....	549	216	+333	525	230	+295
Other service items (Freight and shipping, travel expenditures, personal remittances and contributions, Government transactions, etc.)....	618	1,058	-440	648	1,075	-427
Gold and Silver:	4,261	3,235	+1,026	4,373	3,605	+768
Gold exports and imports....	6	1,979	-1,973	1	3,575	-3,574
Gold earmarking operations (net).....	....	....	+333	....	....	+534
Gold movements (net)....	....	....	-1,640	....	....	-3,040
Silver exports and imports....	7	231	-224	15	85	-70
Capital Items:			-1,864			-3,110
Long-term capital movements.....			+23			
Short-term capital movements <sup>1</sup> .....			+295			
Paper currency and miscellaneous capital movements.....			+12			<sup>2</sup> +1,232
Net capital movements.....			+330			+1,232
Residual Item <sup>3</sup> .....			+508			+1,110

<sup>1</sup> This item relates primarily to the international movement of banking and brokerage funds.

<sup>2</sup> Estimated on the basis of reported data for the first nine months of the year.

<sup>3</sup> In addition to possible errors this item included, particularly in 1939, a substantial inflow of capital which it has been impossible to identify.

## FOREIGN TARIFFS AND COMMERCIAL POLICIES

By HENRY CHALMERS

CHIEF, DIVISION OF FOREIGN TARIFFS, DEPARTMENT OF COMMERCE

### WAR SHADOW ON TRADE CONTROLS

The war in Europe, which broke Sept. 1, 1939, apparently cast its shadow ahead and, particularly among European countries, influenced the trade control measures of the earlier months of 1939, as it distinctly

overlaid them during the later months of the year. There were few striking events or innovations during the first part of the year, with the various foreign governments making minor adjustments in the duties, quotas, or other aspects of their trade control structures built up over re-

## X. BUSINESS AND FINANCE

cent years, and occasionally entering into agreements with other governments for some modification in the regulation of their current trade. These efforts to proceed along established lines, if cautiously, were, however, in many cases accompanied by precautionary measures of various types, apparently reflecting the apprehension that the uneasy peace might not last indefinitely.

### PRE-WAR EUROPE

To their current programs for military preparedness, various countries, particularly of Europe, added measures of trade control designed as prudential steps toward commercial preparedness for any sudden flare-up. Thus, Belgium, France and Switzerland modified their regulations on the conditions of private importation of various foods and fuels during the early months of 1939, with a view to the building up within the country of reserve civilian stocks of daily essentials. This was apart from the war reserves of many products for military use which the different governments had been accumulating for some time. Even more widespread during the same period were the measures to make the exportation of various metals, oils, and other raw materials subject to permit, so as to conserve supplies already on hand for domestic industries.

Some European governments openly announced the appointment of special bodies to develop programs for the mobilization of food supplies and the broad coordination of economic activities, in case of emergency. Moreover, the promptitude with which such programs were put into operation in many countries with the outbreak of war indicated the widespread, if unannounced, advance planning that was going on during the spring and summer of 1939 of economic and trade controls for emergency use.

Of a more far-reaching character was the economic treaty concluded in March, in which Rumania agreed to the development of its agricultural, mining, and forestry resources and means of transportation, with

German industrial and financial assistance, in the light of German import needs, and Germany undertook to take Rumania's surplus production so far as necessary to supplement Germany's own supplies. Less radical, but related in purpose, were the British protocol with Rumania and the French agreements with Rumania and Yugoslavia, aiming at expansion of trade relations with these countries. The British agreement was marked by a purchase undertaking for Rumanian wheat and a credit of \$25,000,000 for the purchase of British textiles and other products. The French agreements provided for preferential facilities for the importation into France of increased quantities of Yugoslav food and forestry products and of Rumanian petroleum and corn.

Early in 1939, plans were made for meetings between groups of British and German industrialists to work out governmentally-supported agreements regarding operations in common export markets that would minimize undesired forms of competition, presumably through some form of international cartelization. Shortly before the scheduled meetings to discuss the feasibility of such a program, German troops occupied Czecho-Slovakia in March, and the British sponsors dropped the matter.

The military occupations of Austria (in 1938), Czecho-Slovakia, and Memel by Germany, of Albania by Italy, and of Poland by Germany and Russia, were followed during the year by a number of tariff and treaty adjustments. In the course of these, the former customs regions of Austria, of the "Sudeten" area, and of Memel disappeared. Trade with those areas became subject to the same conditions as trade with Germany, and the existing commercial treaty commitments to them by neighboring countries were transferred to Germany. Through declaration of a customs union, Albania was incorporated into the Italian economic system. Bohemia-Moravia and Slovakia still maintain some features of the Czecho-Slovak tariff system, although largely under German

## FOREIGN TARIFFS AND COMMERCIAL POLICIES

control. Adequate information is not available as to the degree to which the portions of Poland occupied by Germany and Russia have been assimilated into the respective trade systems of those countries.

A good many import duties and taxes were imposed or increased throughout Europe and the colonies as sources of increased revenue. French action took the form, in May, of a one per cent "armaments tax" on all imports and domestic transactions, later applied also in its various colonial areas.

### BRITISH EMPIRE

Among the precautionary measures marking the pre-war period was the agreement between the United Kingdom and the United States, providing for the exchange of 600,000 bales of American raw cotton for rubber of equivalent value, both commodities to be held in storage by the respective governments as reserves against a major war contingency. In August, the United Kingdom made subject to license the exportation of a very extensive range of mineral, textile, oil-bearing and other raw materials.

The actions taken by the other areas in the British Empire during the earlier part of 1939 were of a more normal character. On January 1, Canada brought into operation the reductions in duties and preferences undertaken in the revised trade agreement with the United States, concluded the preceding November, designed to broaden and deepen the reciprocal concessions exchanged in the original agreement of 1936. In its annual budget, Canada removed from all imports from non-Empire treaty countries the special excise tax of 3 per cent *ad valorem*, which had already been waived for Empire products in 1935. This went beyond the undertaking in the revised trade agreement with the United States, to remove this horizontal tax from the American products specifically figuring in that agreement.

Under a series of orders, the government of Eire increased duties on imports of various products from

non-Empire sources, and at the same time established British preferential rates, usually one-third to one-half off. This followed the Anglo-Irish trade agreement of the preceding year, which terminated the long trade war between the two countries. The South African budget of May increased the import duties on a variety of products for the protection of local industries.

New Zealand applied to additional commodities for the second half of 1939 the license restrictions upon all foreign transactions instituted at the close of 1938, for the purpose of strengthening sterling exchange reserves necessary to meet overseas debt obligations. This restriction bore with particular weight upon imports from non-Empire countries.

The reductions and bindings of duties and preferences undertaken by the United Kingdom in the reciprocal trade agreement concluded with the United States in November 1938, came into effect automatically at the beginning of 1939, except for the undertakings on behalf of the various non-self-governing British colonies, which required implementation by local action. In accordance with this undertaking, the various British colonies made the necessary changes in their tariffs during the early months of 1939, with regard to the various products on which reduced margins of preference were promised, principally by lowering the general rates hitherto applicable to American products, but in some cases by raising the preferential rates.

In the revision of the trade agreement between British India and the United Kingdom, duties were reduced on the important item of British cotton piece goods, to vary with the volume of imports and the quantity of Indian raw cotton imported by the United Kingdom. This was offset by a substantial curtailment in the broad list of British products subject to preferential customs treatment in British India under the Ottawa Agreement of 1932. The United Kingdom is to continue, in the main, the earlier preferences on British Indian products.



## X. BUSINESS AND FINANCE

### LATIN AMERICA

Among the countries of Latin America, the first eight months of 1939 were relatively uneventful in the field of commercial policy. Tariff changes were few, and included exemptions extended to selected machinery and industrial materials by Argentina, Uruguay, and Venezuela.

Mexico continued the unusual program of subsidizing the importation of various essential foodstuffs of which there was a domestic shortage. This had been instituted in mid-1938, following the sharp fall in the exchange value of the peso, and the disorganization in the Mexican landholding system, and is being financed from the additional tax then imposed upon Mexican export staples.

Agreements providing for reciprocal duty exemptions or reductions on selected products were worked out with Paraguay by Uruguay, and in a limited measure by Argentina. With overseas countries, a few general most-favored-nation treaties were signed, but more striking were the negotiations of Germany and Italy with Argentina for enlarged trade on a strictly balanced basis.

Italy offered specific import quotas during 1939 for various Argentine staple farm products up to a total value of \$25,000,000, and Argentina made its imports of Italian goods dependent upon the value of Argentine exports to Italy, with a proviso to prevent any resale by Italy. The German agreement contemplated the barter of additional quantities of Argentine wheat and wool for German railway equipment, with a similar proviso that the Argentine products taken were to be consumed entirely in Germany.<sup>1</sup>

Another trade-balancing agreement, of the type made familiar in recent years, was that between Venezuela and Germany, brought into effect in December 1938 for the year following. It contemplated large takings by Germany, principally of Vene-

zuelan coffee and cacao, with payment to be made in askimarks, redeemable only in German goods.

Of quite a different character was the trade agreement concluded by Venezuela toward the close of the year with the United States, designed to facilitate increased private trade in both directions through reduction and stabilization of existing import controls, but involving no government assurances with regard to purchases, nor attempting to hold trade to a close bilateral balance.

### FAR EAST

The complicated restrictions upon trading with the Japanese-controlled areas of China, arising from the permit, foreign exchange, and shipping obstacles, have continued. In some respects they were reported to have been aggravated, and to have hindered particularly transactions by other than Japanese firms or organizations sponsored by the Japanese Government.

On July 26, 1939, the United States Government gave the customary six-months' notice to Japan of its desire to terminate the most-favored-nation treaty of commerce of 1911, "with a view to better safeguarding and promoting American interests as new developments may require."<sup>2</sup>

### WARTIME EUROPE

**New Control Systems.**—Shortly after the outbreak of the war, many neutral governments of Europe, as well as the belligerents and most of their dominions and overseas territories, installed or authorized new systems of control over their import and export trade, usually requiring licenses for each prospective transaction, or permits for all transfers of exchange, or a combination of both. In many cases, these controls over foreign trade have been the counterpart of broad measures of centralized

<sup>1</sup> When war broke out, none of the German railway equipment had been delivered, although a substantial part of the Argentine products had been taken, and orders for some of the equipment were later placed in the United Kingdom and United States.

<sup>2</sup> To date, Jan. 15, 1940, no announcement has been made of any new arrangement to replace the commercial treaty when it expires on Jan. 26, nor have indications been given of intention on the part of either government to introduce any immediate change in the existing treatment of each other's trade and shipping.

control over domestic economic activities, supplies, and prices.

Many of the European neutrals, as well as the belligerents, moved within the early weeks of the war to adopt measures of control of their economy and trade that were not resorted to during the World War until several years after its outbreak. However, the dramatic circumstances of their invocation may have conveyed an exaggerated impression as to the breadth of prevalence of wartime trade control restrictions in Europe, or the severity of their operation in restricting normal movements of foreign trade.

Closer study of these measures, and the later commercial and official advice as to their operation, show a considerable diversity of experience. Broadly speaking, it appears that the wartime controls of Great Britain and France are operating to curtail materially the importations from the United States of many agricultural and other products which normally constitute a large part of our sales in those markets, while allowing increased importations of a range of materials and equipment more needed for the war effort. The economy and trade of the third belligerent, Germany, had for some time already been on a war basis, and the opening of hostilities was followed by no important new measures of foreign trade control. With imports from overseas countries largely cut off by the Allied blockade, German effort has been directed rather toward measures and arrangements with accessible continental countries to stimulate increased shipments into German territory, particularly of certain raw materials and farm products.

On the other hand, most of the new trade control measures authorized by the neutral countries of Europe have been largely precautionary, to enable the respective governments to take prompt administrative steps in the further regulation of their foreign trade as the developing wartime situation may require. There is little evidence thus far that they are intended to curtail materially the usual importations from the United

States in important lines of merchandise, other than those regarded as luxuries or dispensable during a difficult period. In fact, quite a number of the European neutrals, including Netherlands, Belgium, Switzerland, the three Scandinavian countries, and Eire, have as yet brought into operation no new general wartime license systems upon imports, although some measure of foreign exchange control has been instituted by several of them. Italy had over several years past built up an all-embracing import license and exchange control system, and no announcement has been made since September of any material adjustments within that system, although some changes may have been effected administratively.

**Contraband controls** were established by Great Britain and France shortly after the opening of hostilities, in the effort to prevent overseas supplies of a very broad range of products from reaching Germany. In December, they announced that vessels suspected of carrying German exports would also be intercepted and searched. These, and the German counter-efforts to weaken the effectiveness of these controls, by naval means and otherwise, seem more likely for the period ahead to be the limiting factor upon American sales to most of the neutral markets of Europe, rather than any import restrictions on the part of these countries themselves. The extensive list of products for which the Belgian Government has found it desirable to prohibit even the important transit privilege at its ports without specific permit, illustrates the nature of this situation.

**License controls upon exports** have been adopted, or extended in scope, more commonly by the countries of Europe since September than import license systems. The prime purpose has been to assure adequate domestic supplies of essential products which it would be more costly and difficult to replace under wartime conditions. Secondly, there has been the desire to control the destination of shipments, in accordance with the country's political or eco-

conomic interests. In some cases, the desire was frankly indicated of directing exports to countries from which necessary imports could be obtained under prevailing conditions, with evidence of a distinct preference to facilitate exports to free exchange countries.

Excepting in the case of those products for which the needs for war or mobilization increased the domestic demand, the efforts of most governments have been not to curtail the sales abroad of commodities of which the countries normally had a surplus. For such products, the effort has been rather to maintain, and if possible to extend, their exportation, so far as urgent domestic needs, the availability of transport, and the limitations set by the contraband controls and naval operations of the belligerents would permit. Need for an assured volume of foreign exchange with which to pay for necessary imports, joined with the desire to maintain employment and income among their peoples, has led the governments even of the belligerent countries to give priority to export orders, second only to military needs, in the allocation of raw materials.

#### **Allied Methods and Motives.—**

Since direct American trade with Germany is largely precluded for the present, and Great Britain and France are the principal European countries using their wartime trade controls in a materially restrictive way, closer consideration of their motives and methods of operation seems warranted. Immediately upon the outbreak of war, Great Britain and France introduced broad systems of centralized controls over their domestic and foreign trade. Within the countries, these included governmental requisitioning of available and arriving supplies of many commodities, the centralized organization of production and distribution in many lines, either by the government or by established trade associations operating under its supervision, and the imposition of price-control measures upon foodstuffs and various industrial materials.

As its external counterpart, this

wartime situation called for licenses for import and export transactions, and strict control upon the movements of foreign exchange. The declared purpose of the controls upon imports was primarily to conserve the countries' supply of foreign exchange for necessities and to save shipping space, in the light of the prospective heavy war requirements from abroad. In the administration of these controls thus far, permits for importation from foreign sources have not been granted for what are regarded as luxury goods, and for those products which can be supplied in adequate volume, either by domestic producers or from within the British and French Empires. Where importation has been permitted of products other than those considered essential under wartime conditions, it is understood they are being admitted only in reduced volume, and that considerable discretion is often exercised by the control bodies in choosing or designating the foreign source, in accordance with particular economic and political considerations.

Thus, open general licenses were early established for the importation into the United Kingdom of certain foodstuffs and other products when coming from any part of the British Empire. In November, the British and French governments decided upon a unified economic and financial, as well as military, program, including common purchasing and sharing of supplies, and settlement of accounts in either sterling or francs. Open general licenses were announced by Great Britain for specified food products from France and its colonies, and it was made known that, for certain other products such as women's apparel, licenses would be granted only for importation from France.

Moreover, in the effort to support in an economic way certain countries of South Eastern Europe to which they had given political guarantees, and to render the Balkan areas generally less dependent upon the German market, mass buying from these areas was undertaken by both Allies, notably by Great Britain of



## FOREIGN TARIFFS AND COMMERCIAL POLICIES

various staple foods and raw materials which normally were purchased principally in other countries. In this category, have been, among others, the heavy Allied purchases during recent months of Turkish tobacco and dried fruits, Greek tobacco, Rumanian oil and grain, and Yugoslav lumber and minerals.

A considerable number of commodities, normally shipped in substantial volume from the United States to Great Britain and France, are reported to have recently been either prohibited importation into those markets, or seriously curtailed under either the license or exchange controls. Other products, while also nominally under some form of trade control, have apparently been admitted freely into these countries, in response to increased demands under war conditions. In view of the very nature of the discretionary administrative controls, which now largely determine the movement of foreign trade under current conditions in many foreign countries, and the changing attitude towards particular products or sources with varying conditions, no official position or categorical statement with regard to many of these matters is possible.

The great importance attached by Great Britain and France to conserving their foreign exchange resources, particularly dollar exchange, for the purchase of products not otherwise obtainable, which thus far appears to have dominated the administration of their foreign trade controls, has been explained as due largely to the strong desire to avoid some of the means used for financing the World War, that brought on inflation with its distressing consequences, or that counted heavily upon foreign loans. The resort by both these governments early in the war to price regulation and controlled distribution of foodstuffs and other supplies purchasable by their civilian population, and the plans for forced public savings, seem evidences of the same anxiety.

A number of European countries, especially Belgium, Denmark, Germany, the Netherlands, and Sweden, have sought to obtain additional

revenue by increasing excise or various other internal taxes on specified imported products, and usually also on the corresponding domestic commodities.

**European Neutrals.**—The trade agreement negotiations by European countries during the latter months of 1939 were distinctly dominated, and often dictated, by the war situation. Thus, the neutral countries of western Europe and Scandinavia were engaged in extended negotiations with the British and French on the one side, and with Germany on the other, in the effort to work out conditions under which they could maintain as much as possible of their normal foreign trade, shipping, and transit business under the pressures of the conflicting contraband positions of the belligerents. An agreement between Italy and the United Kingdom set up a joint standing committee "to promote closer collaboration in the economic sphere," with particular regard to the circumstances imposed by the state of hostilities.

The Balkan countries were the scene of a particularly active program of trade negotiations. Germany made strenuous efforts to arrange for increased supplies of various natural products from those countries, to replace former imports from oversea sources. Great Britain and France endeavored to offer them attractive alternative outlets for their surplus products, and in some cases to preempt, by mass purchases, supplies of commodities particularly essential to Germany. Italy also tried through various trade negotiations to increase the importance of its place in the economy of the countries of central and southeastern Europe. In fact, the combined import undertakings on behalf of these four powers for certain products of at least one of the Balkan countries have been observed to amount to more than that country's total available surplus.

The Soviet Union concluded agreements with Estonia, Latvia, Lithuania, and Bulgaria, as well as with Germany, each announced as being designed to increase markedly the volume of goods to be exchanged



between the several contracting countries.

Despite the increasing trend during the early war months toward direct governmental understandings with regard to the movement of particular commodities, it is notable that many countries of Europe with the longest experience in barter trading have recently endeavored to limit, in various ways, the extent of further undertakings that involved receiving payment through clearing accounts in such merchandise and at such time as the other contracting party could deliver.

Turkey failed to renew the former clearing arrangement with Germany, under which about half of Turkey's exports had for several years gone to Germany, under conditions that had so distorted price levels of Turkish products as to render difficult the maintenance of normal trade with other countries. Turkey has since concluded commercial and financial agreements with Great Britain and France, providing, in addition to loans and credits by the Allies for various special purposes, or substantial purchase undertakings of important Turkish surplus products.

Taking advantage of the existence of alternative offers, several of the Balkan countries have recently insisted that only specified products be delivered under compensation arrangements against raw materials and foods which the other negotiating countries particularly desired. To avoid the hazard of further frozen credits accumulating in the Reichsbank, certain countries are reported to have insisted that the volume of their commodities taken for shipment to Germany can not exceed the volume of specified German products actually delivered, with free exchange not infrequently insisted upon as the payment for certain products or services, or for additional takings beyond the value covered by deliveries made.

#### BRITISH EMPIRE

**Integration.**—The trade control measures and arrangements adopted since the beginning of September 1939 constitute long strides toward a

closer commercial integration of the various parts of the British Empire than has probably ever existed, or at least quite early Colonial days. This is reflected in the character of the import controls adopted by most of the Dominions and colonies, in the special purchases or guaranteed prices by the United Kingdom of a number of the principal export staples of the Dominions, and finally, in the importance attached by most of the British areas to so operating their trade control measures as to concentrate trade within the Empire.

Within this general program of Empire commercial cooperation, considerable diversity is observed in the scope and severity of operation of their trade control measures. The regime set up by the United Kingdom, and its operation, have already been discussed in connection with the European situation. In the various Dominions distant from the theater of war, the situations were less exigent, and the measures taken varied with their special foreign trade positions and prospects. Changes in import duties have figured very little in these adjustments, the principal measures of this character being increases for revenue purposes in the levies upon certain consumers' products, such as alcoholic beverages, tobacco, tea, coffee, and in the case of the United Kingdom, also sugar. The principal measures relied upon have been direct administrative control over particular products and transactions through licensing systems.

**Canada** authorized in mid-September far-reaching control over imports, exports, and all transactions in foreign exchange. In operation, this system has thus far been precautionary, rather than restrictive, for the great body of transactions. Upon the normal flow of imports into Canada from the United States, no restrictions have to date been applied. Licenses are being granted freely and promptly to regular importers from this country, and permits for the transfer of exchange in payment are being regularly granted at prescribed rates of exchange. It is understood that the Canadian Government intends to con-

tinue this situation, and that the authority of the newly-established foreign trade regime will be utilized to develop the information essential in formulating future plans for the control of Canada's foreign commerce and exchange.

An interesting innovation is the authority recently vested in the Canadian Wartime Prices and Trade Board, for its task of preventing undue advances in the prices of necessities of life, and of insuring an adequate supply and equitable distribution of such commodities, to recommend that particular necessities be admitted into Canada free of duty or at such reduction of existing duties as will "give the public the benefit of reasonable competition."

**Australia.**—In September, Australia ordered a series of duty changes on a range of miscellaneous products; in December, the Government declared all imports from non-sterling countries subject to license. A four-fold category of import products was established, with the products in the fourth category prohibited altogether from such sources, and certain of the other products to be permitted entry on a reduced quota basis.

**New Zealand,** which in May 1939 had extended to additional products the individual license control over all foreign trade transactions, in the effort to rectify her trade balance and sterling reserves, announced in October 1939 that this import restriction regime was to be continued, and on a more stringent basis, during the first half of 1940. A short time was given for the filing of applications to import during that period. Preference is to be given to commodities considered essential from a national viewpoint, specifically, those required for defense and health purposes, and materials needed for export industries and for domestic manufacturers.

**The Union of South Africa** created in September a National Supplies Control Board, authorized to regulate imports and exports, and to recommend the establishment of maximum prices and other internal controls on specified commodities. The only use thus far made of this authority, in

connection with foreign trade, has been to require the licensing of transaction with specified European countries. The control of exchange established in September is reported to present no hindrance to transfers for normal commercial imports.

**Eire** instituted foreign exchange control, reportedly nominal, and established a sole importer of wheat and corn, with government control over their distribution. No special import controls on ordinary merchandise are reported to have been adopted by British India since September.

**United Kingdom.**—Under the general United Kingdom war powers, most British colonies and mandates received authorization to control the foreign trade of their areas. In actual practice, the use of this authority is reported to have varied considerably. Most of the colonies have announced, in addition to supervision of foreign exchange movements, a general import licensing system. In a few cases, licenses are understood to be freely granted for the usual purchases from abroad. In the majority, this regime has been distinctly restrictive of imports, to the point of prohibiting certain products, and insisting that for others import licenses must be obtained before orders are placed abroad.

**Colonial Import Restrictions.**—Moreover, only few of the colonies have applied their import controls against all sources. Some have limited them to the areas outside of the British Empire, but most often they are applied only to non-sterling areas, which places Canada in much the same category with the United States and other non-Empire areas. Furthermore, the practice has varied in the different colonies with regard to exemptions from newly-established controls for goods en route or orders covered by letters of credit.

The frequency with which the import restriction systems adopted since the war in the British colonies has been limited to non-sterling areas suggests again the British concern over conserving foreign exchange. In operation, these are reported to have materially curtailed importation of

certain American products into a number of the colonies for which the United States had normally been the principal source of supply.

**Export Controls.**—Almost all import areas in the British Empire have instituted license controls over exportations. These apply particularly to raw materials, often to food-stuffs, and frequently also to a wide range of other products. In most of the areas, actual prohibitions upon exportation are applied to only limited lists of specified commodities, the balance being granted individual licenses within the discretion of the authorities, or even subject to an open general license intended definitely to stimulate their exportation. In the case of commodities of which the areas are not themselves producers, the purpose is obviously to conserve domestic stocks. However, even in the case of domestically produced commodities, variation in treatment is often observed, depending upon the destination.

### **PURCHASE UNDERTAKINGS FOR EMPIRE PRODUCTS**

A very important development in this field has been the broad program initiated by the United Kingdom for either the authorized purchase or the guaranteeing of price of the exportable surpluses of various primary products from the Empire. The purpose appears to be partly to stabilize the economic position of such Empire areas during the uncertain days ahead, but mainly to insure that the Empire, and particularly the United Kingdom, will have within its control adequate supplies of certain raw materials and consumers' staples. Thus, it was announced that the United Kingdom is to purchase all Australia's surplus supplies of wool, meat, dairy products, sugar, canned and dried fruits, and zinc, and a large percentage of that area's output of wheat, lead, and copper. Similarly, the New Zealand exportable surpluses of wool, meat, butter and cheese, are to be reserved for the United Kingdom. Without actual purchase, South Africa was guaranteed certain minimum prices

for the unsold portion of its wool clip. Purchase arrangements between the United Kingdom and Canada are reported to cover the entire exportable surplus, or specific regular shipments, of lead, zinc, copper, lumber, bacon and possibly other products.

In the case of those products of which the underwritten supplies are in excess of the needs of the United Kingdom, or other deficit Empire areas, arrangements are being worked out for making available the surplus to the usual buyers in other countries, under conditions and prices set in London by the British Ministry of Supply, or its subordinate trade groups. The arrangements made by American wool importers with the British Government, in the effort to maintain nearly normal supplies of various Empire wools to American manufacturers, is a notable case in point.

### **LATIN AMERICA AND THE WAR**

The lighter impact of the war in Europe upon the Latin American countries has not thus far led to any appreciable number of significant changes in their regimes of foreign trade controls. Their actions since Sept. 1 in this field seem to reflect a sense of uncertainty as to how the war may develop, what effect it may have upon the availability of the usual supplies from the major European countries, and how far the usually large purchases by European belligerents and neutrals of Latin American staples may be maintained or increased. The measures reported to have been taken thus far have been principally of two types.

In a few of these countries, there has been some lessening of the rigidities of import control, in order to facilitate the importation from the United States and other accessible countries of products which the belligerents and adjacent countries of Europe are now less able to supply, or less certain to deliver. Thus, Argentina relaxed her exchange restrictions on successive lists of products from the United States, some of which had for some time been prohibited importation. The easement took



## FOREIGN TARIFFS AND COMMERCIAL POLICIES

varying forms, consisting either of allocation of larger quotas of exchange for particular classes of goods, or making available exchange at the lower official rate, and in some cases allowing importation in unlimited quantities for three to six months ahead. Venezuela reduced its import duties on certain essential foodstuffs, including wheat flour, rice, lard, and butter, and authorized the fixing of maximum sales prices on these products. Ecuador first moderated the system requiring prior import permits before goods could be shipped from abroad, and later abolished the whole system and restored uncontrolled imports.

In the other direction, were the measures taken by two of the Central American countries. Concerned over the problem of foreign exchange shortage, Costa Rica announced preferential allocation of exchange for various classes of products according to their essential character, and Nicaragua restored the system of prior import permits.

The second type of precautionary measure appears to have been prompted by fears that difficulties in obtaining replenishment of imported staples might lead to domestic shortages, and cause speculation and undue price rises. A number of Latin American countries vested in either the executive or newly-established bodies authority to control foreign trade, particularly to restrict exports of prime necessities, to conserve domestic supplies, and to regulate prices.

Thus, Mexico prohibited the exportation of certain necessities, including sheep, goats and their products, wool, beans and corn, for the declared purpose of preventing scarcity and further increases in prices. Nicaragua also prohibited the exportation of certain foods for the same purpose. El Salvador permits the exportation of certain fibers, sugar, hides, tobacco, only under specially authorized export permits. Argentina prohibited the exportation of all fuels, metals, new or used, and jute sacking. On the other hand, Argentina abolished the basic minimum prices which it had been guaranteeing producers for some

time for wheat and linseed. On wheat, the reason given was to prevent speculation; on linseed, because world prices had exceeded the guaranteed minimum.

Uruguay established an additional general tax of 5 per cent on exports of animal products, to replace a temporary war profits tax imposed partly to check rising prices on prime necessities. The exportation of unworked metals and scrap, coal and petroleum, were made subject to license.

### DEVELOPMENTS UNDER BARTER ACCOUNTS

Apparently, the uncertainties of the political prospects in Europe, particularly following the Munich agreement regarding Czechoslovakia in September 1938, impelled various of the Latin American countries that were heavily committed in barter or clearing arrangements with Germany and other European countries to seek to liquidate outstanding askimark or similar accounts, by increased importations from those countries during 1939. The outbreak of war in September found many of these countries with heavy orders on the books for a broad range of products from the major European countries, notably from Germany. According to the best available information, however, the outstanding askimark or similar balances, which might have to remain largely immobile during hostilities, had in most cases been reduced to small proportions.<sup>3</sup>

The principal exception was in the case of Mexico, whose bulk exports of petroleum to Germany and Italy during 1939, mainly against anticipated deliveries of various manufactured products for private and governmental purposes, had been far from covered by such deliveries, leaving substantial amounts of frozen credits. In the fall, the Mexican Government was reported to be seeking an expansion of the barter contract with Italy entered into in April,

<sup>3</sup> It is reported that, prior to the extension of the Anglo-French contraband control also to German exports in December, considerable shipments of a variety of German products reached Latin American ports by neutral vessels.



## X. BUSINESS AND FINANCE

which gave Italy a virtual monopoly over the imports of rayon yarn into Mexico, against shipments to Italy of Mexican petroleum.

### TRADE AGREEMENT ACTIVITY

Very few new commercial treaties or agreements have been negotiated by the countries of Latin America since the outbreak of war in Europe. Notable was the Franco-Argentine commercial arrangement of late December, reported in the Argentine press as consisting of undertakings by the French war purchasing mission for increased quantities of wool, meat, linseed, hides, and other Argentine staples, and by the Argentine Government for "the most favorable treatment possible" in exchange matters. The latter undertaking has since taken the form of regulations whereby the franc credits created are to be utilized only for payment of imports from France or for other remittances due in France. A similar arrangement is understood to be in operation between the governments of Great Britain and Argentina. Hitherto, the balances of foreign exchange accruing to Argentina from those countries with which it had favorable balances

of payments were available for payment of imports from other countries.

On the contrary, the Dominican Republic suspended in December the commercial convention of 1936 with France, when that government found itself unable to continue its purchases of Dominican coffee. This resulted in the Dominican duties on a number of products from all sources being restored to the higher levels which preceded the French agreement. Reference has earlier been made to the conclusion of the reciprocal trade agreement between Venezuela and the United States, which had been under negotiation since the preceding year.

To check a rapid price rise in sugar after the outbreak of the war, the United States suspended the duty reduction of the 1934 trade agreement with Cuba, in connection with lifting of all quota limitations upon the amount of sugar that could come upon the American market. Toward the end of the year, a supplementary Cuban-American agreement restored the duty reduction on sugar, contingent upon the restoration of consumption quotas by the United States, which followed almost immediately.

## LIFE INSURANCE

BY WENDELL M. STRONG

ASSOCIATE ACTUARY, MUTUAL LIFE INSURANCE COMPANY OF NEW YORK

### GENERAL

In the matters of new business, increase in assets, increase in the amount in force, and investments, there were no great changes in 1939 from the tendencies of the immediately preceding years, the companies as a whole showing a healthy but not particularly rapid growth, and the investment field presenting the same difficulties.

The special features of the year 1939 were the adoption of a new insurance law in New York State, the passage of a statute in New York State for the escheat to the state of so-called unclaimed funds in life insurance companies, the T.N.E.C.

(Monopoly Committee) investigation, the report of a committee of the Insurance Commissioners in reference to the desirability of a new mortality table and the effect that the adoption of such a table would have, the development of savings bank life insurance in New York State, and the problems caused by the European war.

### ASSETS

The assets at the end of 1938 showed something more than 5 per cent increase over 1937, the rate of increase, however, slowing up a little from that of a number of years previous. The year 1939 will probably

## LIFE INSURANCE

show an increase of a little over 5 per cent in assets, about the same rate of increase as in 1938.

For a number of years the low interest rates and the dearth of good investments of the ordinary kind have led to the taking, in a much larger degree than for any previous period, of policies of the investment type, particularly annuities, the safety and the return that the insurance companies could give being more attractive because of the difficulty in investing. This created difficulties for the insurance companies and has resulted in some companies withdrawing some of their single premium contracts and some forms of annuities and in other ways discouraging this type of business.

Also, as in previous years, the Modes of Settlement available in policies have been taken advantage of to a larger extent by beneficiaries than would happen if better interest rates could be realized on investments.

### NEW BUSINESS AND INSURANCE IN FORCE

The year 1938 showed a decrease in insurance issued of about 15 per cent from that issued in 1937. In 1939 this tendency was reversed except in industrial insurance, there having been a moderate increase in ordinary insurance, a very great increase in group insurance, bringing it to an amount higher than that of any previous year, and a decrease in industrial insurance to slightly over one-half of that written in 1937.

Due to an amendment to the statutes of the State of New York, insurance companies operating in New York (about 80 per cent of the Industrial insurance in force in the United States is in force in these companies) were not in a position to write Industrial endowment insurance in 1939. The New York statutes have been again amended so that after 1939 these companies will be able to write Industrial endowment insurance outside of the State of New York. Although some of the business that would otherwise have been written as Industrial endowment insurance in 1939 was probably written as Industrial insurance on the life plan or as Intermediate Ordinary insurance, it appears that a large portion of such business was not written at all. Consequently there was a sharp decrease in the volume of Industrial insurance issued in 1939 as compared with previous years.

Group insurance is particularly sensitive to business conditions, so that with the pickup in business in 1939, as in 1937, a considerable increase was to be expected. The amount of such increase, however, is greater than would have been anticipated.

The total amount of insurance in force increased moderately in 1938 and presumably has also increased moderately in 1939, with little change in industrial insurance.

It has been anticipated by some that the beginning of social security payments would greatly affect the writing of life insurance. It logically should not do so and presumably will

### NEW INSURANCE

(Association of Life Insurance Presidents)

(40 companies having 82 per cent of insurance in force in all U. S. companies on Dec. 31, 1938)  
(Dollars in millions. Eleven months of each year)

	1937	1938	Per Cent Increase	1939	Per Cent Increase
Ordinary Insurance.....	\$5,128	\$4,210	-17.9%	\$4,599	9.2%
Industrial Insurance.....	2,426	1,953	-19.5%	1,359	-30.4%
Group Insurance.....	674	385	-42.8%	698	81.2%
Total Insurance.....	\$8,228	\$6,548	-20.4%	\$6,656	1.7%

This table is only for the purpose of showing the tendency, so far as it is known, for 1939. It corresponds only roughly with results for all insurance in all companies in previous completed years.

## X. BUSINESS AND FINANCE

### AMOUNT OF INSURANCE—ASSETS—INCOME—DISBURSEMENTS

(Including Ordinary, Industrial, and Group Business)

(Insurance Year Book. Dollars in millions)

(All United States Companies)

Year	Number of Companies	New Business	Amount in Force (End of Year)	Admitted Assets (End of Year)	Surplus* (End of Year)	Total Income	Total Disbursements
1938	306	\$12,627	\$111,055	\$27,755	\$2,049	\$5,357	\$3,744
1937	308	14,796	109,572	26,249	1,945	5,257	3,610
1936	315	14,335	104,667	24,874	2,009	5,180	3,518
1935	340	14,139	100,730	23,216	1,768	5,072	3,593
1934	313	14,280	98,542	21,844	1,823	4,786	3,662
1933	318	13,787	97,985	20,896	1,827	4,622	3,917

\* Includes amount set apart for dividends to policyholders during following year.

### ORDINARY INSURANCE

	1938	1937	1936	1935	1934	1933
Number of companies.....	240	242	250	275	248	252
Amount terminated by death.....	\$ 719	\$ 708	\$ 707	\$ 675	\$ 685	\$ 698
Amount terminated by surrender and lapse.....	4,213	3,758	4,046	5,094	6,138	8,211
Total amount terminated.....	6,191	5,659	6,106	7,426	8,868	11,420

### INDUSTRIAL INSURANCE

(All United States Industrial Companies)

(Insurance Year Book. Dollars in millions)

Year	Number of Companies	Number of Policies (in millions)	New Business	Amount in Force (End of Year)	Amount Terminated by Death	Amount Terminated by Surrender and Lapse	Total Amount Terminated
1938	66	89	\$4,423	\$20,986	\$159	\$3,236	\$4,088
1937	66	89	4,784	20,591	168	2,944	3,624
1936	65	87	4,854	19,464	160	3,040	3,689
1935	65	84	4,722	18,298	154	3,479	4,086
1934	65	83	4,885	17,651	154	4,111	4,428
1933	66	82	4,673	17,154	149	4,515	4,797

not, since the social security payments are to old people whereas the beneficiaries of life insurance are in the great majority of cases a wife or children, rather than those who would receive benefits from social security payments.

### INVESTMENTS

The same difficulty in the making of investments that prevailed in the preceding years continued through 1939 and was perhaps accentuated.

The difficulty of securing safe investments to return a reasonable interest rate did not lessen and the situation with reference to railroad bonds, real estate mortgages, and real estate did not improve. This was the occasion of some further losses to the companies but in no case, at least of any company of importance, has it contained a threat to solvency. The inordinate amount of Federal Government bonds held was necessarily continued.

## LIFE INSURANCE

### DIVIDENDS

The dividend scales for dividends to policy holders payable in 1940 will be maintained the same as for 1939 in many companies. There will, however, be a considerable number of decreases and a few increases.

### SURRENDERS AND POLICY LOANS

Surrenders increased during 1938, and policy loans decreased slightly. The increase in surrenders may have been the result of the year having been less prosperous than the preceding year. The fact that policy loans decreased instead of increased is prob-

olicies at a lower rate than the contract rate provided in the policies themselves, with the result that many loans on policies that would ordinarily have been made by the life insurance companies have gone to the banks.

There is no reason to suppose that when figures are available for 1939 there will be any radical change in the amounts of either surrenders or loans, although loans may have decreased further.

### FRATERNAL INSURANCE

The amount in force at the end of 1938 was changed but slightly from

### SURRENDERS AND LOANS

(New York Insurance Report)

(Companies Reporting to the State of New York. Dollars in millions)

Year	Number of Companies	Amount inf force (End of Year)	Amount of Policies Surrendered*	Amount of Policies Lapsed*	Paid for Surrendered Policies	Policy Loans (End of Year)
1938	57	\$75,481	\$1,416	\$1,579	\$ 674	\$2,846
1937	57	74,814	1,241	1,430	578	2,855
1936	56	71,620	1,447	1,443	622	2,869
1935	51	69,350	1,966	1,740	772	2,989
1934	53	68,135	2,624	1,896	924	3,096
1933	53	68,177	3,624	2,551	1,177	3,191

\* Includes group insurance but not industrial.

### PAYMENTS TO POLICYHOLDERS—INTEREST RATE

(Including Ordinary, Industrial, and Group Business)

(Insurance Year Book. Dollars in millions)

Year	All United States Companies:						100 Companies
	Number of Companies	Premiums Received	Dividends Paid	Death Losses Paid	Surrenders and Lapses	Total Payments to Policyholders	Rate of Interest on Mean Invested Funds
1938	306	\$3,800	\$447	\$934	\$ 771	\$2,578	4.33%
1937	308	3,762	435	937	669	2,437	4.47%
1936	315	3,683	418	919	713	2,429	4.49%
1935	340	3,692	424	877	883	2,535	4.47%
1934	313	3,521	438	875	1,078	2,705	4.68%
1933	318	3,322	499	877	1,357	3,016	4.75%

ably attributable to the fact that with the low interest rates prevailing the banks found it profitable to loan on the surrender values of life insurance the preceding year. Fraternal Insurance has not shown the same increasing tendency of the amount in force as other kinds of insurance.



## X. BUSINESS AND FINANCE

### FRATERNAL INSURANCE

(All U. S. Fraternal Orders Showing Figures)  
(Insurance Year Book. Dollars in millions)

Year	Number of Orders	New Business	Amount in Force (End of Year)	Assets (End of Year)	Total Income	Total Disbursements	Net Amount Received from Members	Paid for Claims
1938	243	\$559	\$6,347	\$1,134	\$218	\$162	\$155	\$111
1937	255	666	6,333	1,098	224	166	159	117
1936	249	586	6,164	1,039	212	167	150	116
1935	266	563	6,183	994	205	159	152	111
1934	262	524	6,300	961	198	157	150	115
1933	206	502	6,395	906	193	156	152	111

### SAVINGS BANK INSURANCE

Savings bank insurance has become an actuality in New York State. At the beginning of 1939 three savings banks undertook to issue this insurance, and during the year three more have been added; also, seven banks have become agency banks to take applications for the issuing banks. The total insurance in force for the first nine months had a face amount of approximately \$5,500,000, the average policy being a little over \$900. A small dividend will be paid to policyholders in 1940. The comparatively small amount issued for the time the savings bank life insurance plan has been in force indicates that, as was anticipated, the undertaking of this plan, while it will furnish insurance at a low premium rate because of there being no agency system with its attendant expenses and also to some extent because of the assistance given by the state, will have a scarcely perceptible effect on the business of the companies.

### NEW NEW YORK CODE

The new New York Code which has been referred to in previous issues became a law in 1939. It makes many changes in the existing law, some of which are important and others of which, while unimportant in themselves, make difficulties for the companies because of slight variances from the statutes of other states.

Of the former type perhaps the most important is the limitation of mortgage investments to 40 per cent of a company's assets. Another that

may prove important is that a company may not pay a policy dividend on a participating policy at the end of the first year if such dividend is not "earned." Since the question whether a dividend is earned or not in the first year nearly always depends upon which of two theories is held rather than upon any facts of earnings, the adherence of the Insurance Department to a theory adverse to first-year dividends might result in a prohibition of them. Minor differences in the wording of required policy provisions from those of the statutes of other states may make it necessary for the companies to issue different policy forms in New York State from those issued in other states. This would occasion considerable extra expense to the companies.

### NEW MORTALITY TABLE

At the instance of the Insurance Commissioners, a committee composed of actuaries of the State Insurance Departments and representatives of the Actuarial Society of America and the American Institute of Actuaries was formed to consider the question of the desirability of the preparation of a new mortality table and the effect that a table based on present day mortality would have in various ways upon life insurance, and this committee made a very careful and exhaustive report.

The table at present in use for premium rates and reserves by nearly all companies is the American Experience Table, a table based on the experience of the Mutual Life Insur-

## LIFE INSURANCE

ance Company of New York and constructed in the early 1860's. This continued use is in part due to the statutes of various states which require the reserve by this table.

There has been much criticism of the use of such a table because it does not represent present day mortality, with the idea that this resulted in excess cost to policyholders. The committee said that this criticism was unjustified and that the net cost of insurance to policyholders, in the aggregate, would probably not be reduced by the use of a new table. The reason for this is that the mutual companies, and the greater part of life insurance, is written by mutual companies, return to the policyholders in the form of policy dividends any surplus beyond the amount which should be carried as a safety fund for contingencies. It also called attention to the fact that the statutes of some states would have to be modified before the use of a new table, even after construction, would be practicable. Many details were covered in this report which has done a real service to life insurance.

### T.N.E.C. INVESTIGATION

The Temporary National Economic Committee of Congress, the purpose of which was the investigation of monopoly, began the investigation of life insurance during the year. Besides taking oral testimony in Washington of various officers of the companies, the committee issued to the companies questionnaires on all phases of the business. To answer some of these, extensive statistical information had to be collected. While such an investigation is necessarily of great importance to life insurance, little can be said of it, beyond noting the fact that it is going on, until it is completed and a report published.

### EUROPEAN WAR

The immediate effect of the war has been the consideration by the companies of the means to protect themselves, in policies being issued, from the special hazards of war. Most of the companies have adopted a "war clause" to be used for policies

issued where there seems a more than ordinary chance of the insured being subject to the hazards of war. Such war clause provides for exclusion for a limited time of the hazards of war, applying to civilians as well as to those in military or naval service. Ordinarily there is the alternative of paying an extra premium to cover such hazards.

The largest class for which such a clause is being used is non-citizens of the United States, some companies going further and applying it to all foreign-born whether United States citizens or not. There are also some classes of citizens where special hazard is anticipated, such as army and navy officers, for whom the war clause is also used.

An attempt by the Insurance Commissioners of various states is on foot to obtain the adoption by the companies of a standard clause but nothing more definite than certain provisions being proposed for such a clause has as yet resulted.

If the war continues, the exclusion of the war hazard will be a much more important and difficult question for the companies than as yet exists.

In nearly all companies practically all of the insurance in force at the beginning of the war was without restriction (except as to disability and double indemnity provisions) as to war risks, these, as well as all other hazards of death, being covered by the policies.

### ESCHEAT STATUTE

In 1939 a statute was passed in New York State providing for escheat to the state of so-called "unclaimed funds" of New York State life insurance companies. Certain of these funds, such as the proceeds of matured endowments for which the companies have not located a claimant, properly come under the description "unclaimed funds." Others, however, such as reserves under extended insurance granted on lapse, where within a specified time the insured has not given notice in writing to the company that he knows of this insurance, are not properly unclaimed funds but reserves held to fulfill the

## X. BUSINESS AND FINANCE

obligations of the companies. The taking of these reserves by the state would leave the companies liable in case of death for the excess of the insurance under a policy above the reserve on that particular policy. Since there would be no reserves from other extended insurance policies which might not become death claims, the state by this action attempts to take from the companies funds which are held for, and would be devoted eventually to the payment of, its legal obligations under death claims.

Also, although, for the larger companies at least, the policies taken out-

side of New York State and which are contracts of other states are much greater in amount than contracts on residents of New York State, this statute attempts an escheat to New York State of unclaimed funds without reference to the fact that another jurisdiction might have as great, or greater, claim on such funds if they are subject to escheat.

The companies contend that the provisions of this statute amount to confiscation, that is, the taking of property without due process of law. Its constitutionality is now being tested in New York courts.

### FIRE INSURANCE

BY EDWARD R. HARDY

SECRETARY-TREASURER, INSURANCE INSTITUTE OF AMERICA, INC.

#### FIRE LOSS

The National Board of Fire Underwriters is the authoritative source of statistics dealing with the fire loss. These statistics are published month by month throughout the year. The record for 1939 shows an increase in the fire loss of about 4 per cent over 1938 and about 10 per cent over 1937. The tabulation of these statistics month by month for the three years is interesting as showing a fairly uniform fire loss during the same month in each year. The tabulation, as made by the National Board, is as follows:

	1937	1938	1939
Jan...	\$ 25,069,895	\$27,676,337	\$ 27,615,316
Feb...	28,654,962	26,472,626	29,303,520
Mar...	29,319,029	29,030,968	30,682,168
Apr...	26,663,854	25,616,112	27,061,522
May...	21,437,739	22,917,577	27,031,700
June...	19,524,765	19,473,617	24,190,700
July...	19,812,485	20,434,688	22,468,304
Aug...	19,767,314	20,821,184	22,800,500
Sept...	19,349,756	23,372,528	22,837,250
Oct...	21,097,670	24,797,624	24,300,500
Nov...	23,849,673	28,658,695	27,248,160
Dec...	30,172,952	32,758,044	27,959,200
Total, 12mos.	\$284,720,094	\$302,050,000	\$313,498,840

In the month of December 1939 there were 269 fires resulting in a loss

of more than \$10,000 each, the aggregate being \$9,506,000 which is one-third the total fire loss for the month. The distribution of these losses in the different parts of this country and Canada are as follows:

	No. of fires	Loss
East.....	92	\$3,211,000
South.....	69	2,506,500
West.....	68	2,449,500
Pacific Coast.....	19	693,000
Canada.....	21	646,000
Total.....	269	\$9,506,000

As stated above, for the past two years there has been an upward trend in the loss due to fire. It has been expected for several years that there would be an upward trend in the fire loss, whether it was occasioned by a large conflagration or not; by this is meant a gradual increase in the amount of losses due to fire. Why should the fire loss have run comparatively low for so many years? All tests which have been applied for a solution of the problem do not seem satisfactory. Persons skilled in such matters have stated that in the final analysis they can not account for the loss ratio averaging not more than

## FIRE INSURANCE

40 per cent of the premiums over a period of five, or even more, years.

There probably is one factor which is playing a part in the matter. The number of fires have not decreased. Indeed in some parts of the country they have increased, so the low loss ratio can not be ascribed to that source. But it is possible and even probable that a certain economic condition may be partly responsible. That is, that the retail merchant, the small merchant as he is called, is probably not carrying, and has not carried for years, the stocks he used to carry. The trucking system has enabled the merchant to stock up in most cases within twenty-four hours and he prefers to do that rather than to buy and pay in advance for a large stock of goods. This theory which has some merit may not be the whole explanation, but as the fires have not decreased in number, the loss per fire must be less than was true some years ago; and this, it seems reasonable to suppose, is due to the fact that the amount of property in the stores to be burned is not as large as it was because business is done on a different basis.

It is interesting to note that the Middle West reports that the farm fire losses may be placed at \$112,000,000 for 1939. That is a substantial sum to be accounted for by only one type of risk and it is an increase of about 15 per cent over 1938. No explanation for this which will stand a test seems to be forthcoming.

### PREMIUMS

The premiums received by the Fire companies in 1939 do not show much change from the year before; there may have been a slight decrease hardly worth mentioning. The amount may be put at approximately \$1,000,000,000, about the same as it has been for the past two years. These premiums are not merely fire premiums, because the companies organized for the writing of fire insurance are empowered under their charters or articles of incorporation to write other forms of insurance. These other lines are called "accessory" or "collateral" lines, or lines "where the fire policy

leaves off"; in other words, they fill a gap. They include: motor vehicle, ocean marine, tornado, inland navigation, aircraft, earthquake, sprinkler leakage, hail, riot, civil commotion and explosion, rain and flood, water damage, frost and freezing. The premiums received from these lines amount to around 40 per cent of the total premiums received by fire companies, and the motor vehicle line accounts for about half of this amount.

### COVERAGE

Extended Coverage Endorsement No. 4 was developed some four years ago to extend the coverage of the strictly fire policy by covering in one form the following hazards: perils of windstorm, cyclone, tornado, hail, explosion, riot, riot attending a strike, civil commotion, aircraft, smoke, vehicles. It will be noticed that many of these are included in the collateral lines and are there written as individual lines and not coupled with something else. The value of the Endorsement is that, with a single piece of paper, the insured can be protected from a variety of losses. This form represents the tendency in Fire Insurance, and perhaps in some other branches, to simplify the writing of a risk by including in a single cover all of the hazards noted in addition to the hazard of fire and lightning.

The cost of this Endorsement is comparatively small and in some parts of the country, where the windstorm hazard is rather severe and it was the established practice to sell the windstorm cover with the fire policy, the rates for this inclusive coverage have not changed very much. But in any part of the country the additional charge for the Endorsement is modest. The property must first be insured against fire and then the Endorsement be taken out for as much insurance as the fire policy. Thus if the Extended Endorsement is added to a fire policy covering a property for \$10,000, the Endorsement must also be for \$10,000. This Endorsement is of increasing importance to the companies as a



premium producer as well as of importance to the insured as additional protection. In a certain territory, where the Endorsement in 1938 was responsible for premiums amounting to \$25,000, in 1939 the premiums amounted to around \$100,000.

### RATES

The rates have shown a steady tendency to drop and this has been a characteristic for many years. This reduction in the rates would appear to be inevitable because of the comparatively low loss ratio which has been mentioned. A low loss ratio for one year probably would not have any effect on the rates, but where that condition continues for several years, pressure is apt to be exerted by the insured and by the officials charged with the supervision of the insurance rates for reductions. The problem is now receiving very earnest consideration by the state insurance departments and by the companies and important committees, representing the companies and the insured. In the case of life insurance, where every risk is, so to speak, a total loss, or, to put it differently, where a policy, carried to a conclusion, must be paid for its face amount, the rate-making problem is not so difficult as in those forms of property insurance where there may be no loss under a policy or there may be losses of varying amounts. It might be possible—it would take some years to do it—to develop a system of rating, uniform throughout the United States, which would be accepted by both parties to the contract and then to provide for a percentage reduction in the rate when the loss ratio dropped below a certain point, and a percentage increase when the ratio went above a certain point. One difficulty with this proposition is that the state is usually willing to accept the reduction but might balk at the increase. The whole matter will be affected by the losses which may develop under the Extended Coverage Endorsement. These may be sufficient to push the loss ratio up to a much higher point than now is the case.

### STANDARD FIRE POLICY

After many years of consideration, the Insurance Commissioners and Superintendents, meeting in San Francisco in June 1939, approved a new policy and recommended its adoption. It is a policy which is much broader than the present policy and covers some things which are now usually taken care of separately or mentioned specifically in order to be covered. There are in the United States at the present time six standard policies covering in different parts of the country. No one policy has ever won the approval of all the states or of all the companies, although probably the insured has been well taken care of under any one of the policies. The difficulty with a new policy is that, however carefully drawn and considered, it may require court decisions to determine the exact meaning of the language in certain cases. For instance, when the Marine Code was being drafted in England—it took ten years from 1906 to 1916 to do it and involved the examination of 3,000 court decisions—it was proposed then to change the policy of marine insurance. That was not done, however, for the simple reason that the opinion prevailed that the policy, while not what one would really wish for, had been before the courts so many times that practically every word had been construed and was understood by the parties to the contract. It was realized that a new policy would have to be similarly construed by the courts and that it would take many years, decades in fact, before this process would be completed. That will probably be somewhat the fate of the new standard policy, but those who have worked on it evidently feel that the improvements incorporated in it outweigh the disadvantages in this respect.

Within reason it would seem desirable to have one policy used throughout the United States, and those who advocate the new policy contend it should not be adopted unless at least three-fourths of the states adopt it. It is hoped New York may adopt the new policy, paving the way for adoption in other states.

## MARINE INSURANCE

### MARINE INSURANCE

BY HENRY H. REED

GENERAL MANAGER, INSURANCE COMPANY OF NORTH AMERICA

#### INLAND MARINE

Before dealing with the momentous events that have taken place in 1939 in the Ocean Marine field it might be expedient to comment briefly on the Inland Marine market. The 1938 premium income was slightly off compared with 1937, the actual net premium figures for 1938 being \$43,645,236 compared with \$44,671,836 for 1937, a decline of 2.3 per cent. The reductions made in rates on jewelry and fur floaters and the smaller volume of business in registered mail, armoured car and messenger service lines undoubtedly were mainly responsible for this drop in premium. Losses for 1938 totalled \$17,928,287 or 41.1 per cent of the net premiums. This compares with \$16,925,154 or 37.9 per cent in 1937. It is doubtful whether the premium volume in 1939 will exceed that of 1938; on the contrary, a further drop is rather expected. On the other hand, to date losses have not been unusual and the loss ratio for the year should be quite satisfactory. The major event of 1939 was undoubtedly the fine arts insurance placed in connection with the New York World's Fair. Practically every company of note writing this class of business was interested in this risk and, following excellent work on the part of the brokers handling the line, a market for the huge sum of \$27,000,000 was established. One policy, on a syndicate basis, was issued for this amount, and there were 35 subscribers, the largest single subscription being \$2,428,892 and the smallest \$50,000. This is the largest policy that has ever been issued in America for a single risk. The London market was interested in the risk by way of reinsurance; it did not have a direct interest in the policy.

#### OCEAN MARINE

Before dealing with the current year it is desirable to complete the

comparison of 1938 with 1937, which it was not possible to do last year at the time this review was written. The total Ocean premium for stock companies in 1937 was \$37,917,186, with losses of \$22,081,621—ratio 58.2 per cent. In 1938 the premiums were \$34,901,723, a drop of 8 per cent, whilst losses increased to \$23,030,634—ratio 66 per cent for the year. However, it must not be overlooked that this loss figure includes the large payment made by the market in respect of the *President Hoover*, the vessel having stranded in December, 1937, and also includes claims arising from the September hurricane. Due to the unsettled condition of world markets in 1938, which seriously handicapped the flow of overseas trade and caused considerable reduction in the export trade of this country, the Marine premium figure shown above would have been substantially less had it not been for the "padding" provided by the War Risk premiums.

The early part of 1939 was noteworthy for several serious losses to both hulls and cargoes. The Bull Line freighter *Lillian* was a total loss after collision with the German steamer *Wiegand*. She was carrying a cargo of raw sugar. This loss followed closely that of the tanker *Lightburne* which became a total loss after stranding in the vicinity of Block Island, carrying a cargo of gasoline and kerosene. The steamer *Virginian* was badly damaged in collision with the tanker *Solama* in a dense fog south of the Golden Gate. The *Virginian* was carrying a valuable cargo of canned goods, dried fruit, lumber and wool. Towards the end of March another total loss occurred when the freighter *Point Vincente* stranded near Balboa. She was carrying lumber, newsprint, canned goods, and dried fruit, and like the *Virginian* was bound from Pacific ports to Gulf and Atlantic ports. In July the

*Edgar F. Luckenbach* was a total loss following collision with a ferryboat in New Orleans harbor.

Despite the numerous safety devices and fire detecting systems that have been put on the market the past few years, it will be seen from the following fire losses that have occurred this year that the peril of fire is an ever constant one and one that, despite all the precautions and protective measures and time spent in research, is one of the most, if not the most, expensive causes of loss to a Marine underwriter. In April the French Liner *Paris*, while in port at Havre, caught fire and became a total loss. This loss was the most spectacular of the year. In January the freighter *Silver Ash*, while loading cargo for the Far East, was on fire at her pier in Brooklyn and a very serious claim resulted. In April the steamer *Texan*, while unloading cargo at her pier in Jersey City, had a serious fire which necessitated the submerging of the vessel to prevent a total loss of ship and cargo.

#### AMERICAN CARGO WAR RISK REINSURANCE EXCHANGE

The year 1939 will undoubtedly go down in the history of Marine Insurance as a memorable one from the point of view of organization in the course of which, the Marine market has proved once again its ability to meet the extraordinary demands made upon it by the merchants and shippers engaged in overseas trade. Reference is made to the formation of the American Cargo War Risk Reinsurance Exchange. Following the Munich crisis, several of the farsighted leaders of the market saw the necessity of their exploring ways and means of developing the Marine market to its utmost capacity for the purpose of providing the largest facilities possible for the insurance of War Risks. However, it was not until after Germany's occupation of Czecho-Slovakia that the market took definite action. A committee was appointed from the members of the American Institute of Marine Underwriters, and as a result of its excellent work it was decided, at a

meeting of the Institute held May 5, 1939, to organize the American Cargo War Risk Reinsurance Exchange. There are 143 members of the Exchange. This number includes both parent and affiliated companies, and it is governed by a board of managers consisting of 22 of its members. There is an underwriting committee of nine members, a loss committee of eight members, and a finance and audit committee of three. These are the standing committees. In addition there is an executive committee of five members, and there are several temporary committees dealing with various problems of the moment. Subscribers to the Exchange declare their War Risk writings to the office of Albert Willcox & Co., Inc., acting as secretary of the Exchange, where the declarations are collated and then redeclared by way of reinsurance to the subscribers according to their respective percentages of reinsurance accepted. Collection of premium and losses for distribution to reinsurers is made by the secretary. Liability of the subscribers to the Exchange Agreement is several and not joint.

It is not possible in this short article to convey adequately an idea of the work and time that have been spent on the organization and running of the Exchange. It is only when one thinks back to the last war and the methods employed for the underwriting of War Risks at that time, that one fully realizes the tremendous step forward that has been made through its formation. It might be mentioned, too, that the initiative and ability that has been displayed by some of the younger men in the market speaks well for the future of the business in this country.

#### GOLD SHIPMENTS

The year 1939 has also been noteworthy in one other respect, namely, the record movement of gold and specie from Europe to this country, and the amount of insurance placed in connection therewith. Following the German occupation of Czecho-Slovakia heavy shipments were made and within a period of about two



## CASUALTY AND MISCELLANEOUS INSURANCE

weeks the *Président Roosevelt* arrived in New York with approximately \$22,000,000, followed by the *Manhattan* carrying the largest consignment ever shipped on one vessel, namely, \$60,000,000. Following the *Manhattan* in quick order, the *Normandie* and *Aquitania* arrived with large shipments. Since that time there has been a steady volume of business offering.

### HULLS

The year was comparatively uneventful in the Hull market. The run of losses may be said to have been nominal and there has been a satisfactory increase in premium income, as compared with 1938, which will help take care of the almost certain increase in cost of repairs likely to follow as a result of the war. As regards War Risks, the volume of premium written by the American Marine Insurance Syndicate has been negligible. In April the limit of the Syndicate on a single hull, for War Risks, was increased from \$500,000 to \$1,000,000, but despite this increase in capacity there has been very little business offered. In the Miscellaneous Hull Market there has been a certain stability which has been lacking in previous years as the result of the formation of the Coastwise Great Lakes and Inland Hull Association in May. This Association was formed to facilitate the insurance and reinsurance of American

and foreign hulls not coming within the scope of the syndicate, and is composed, with one or two exceptions, of all companies writing the Miscellaneous Hull class. It is governed by a Committee of Eleven and it has jurisdiction over vessels, or fleets, with units of one or more that are valued at \$50,000 or over. Given the continuance of the present run of losses on this class to date, the year 1939 should show a profit.

### SUMMARY

It is hardly to be doubted that 1939 will show a substantial gain in premium income as compared to 1938. While this is a welcome state of affairs, the increase will almost entirely be due to War Risk premiums, and those responsible for the Marine accounts of their companies must not lose sight of this fact. It is so easy, with a steady flow of War Risk premiums coming in, to make some slight concession in the Marine rate of an account, or to grant some slightly broader form of Marine coverage, the result being, when the war is over and the large war premiums have ceased, one will be faced with the realization that the backbone of the business—the Marine account—has been allowed to get into an unhealthy condition. This is exactly what happened during the World War, and some of the ills that crept into the business then are now a chronic disease.

## CASUALTY AND MISCELLANEOUS INSURANCE

By G. F. MICHELbacher

GREAT AMERICAN INDEMNITY COMPANY, NEW YORK

### EXPERIENCE FOR 1938

As a starting point may be taken the 1938 experience of 66 stock carriers as reported to the New York Insurance Department in the form of "The Casualty Experience Exhibit." This exhibit, although reported to the New York Insurance Department, nevertheless comprises the national experience of this group of carriers and, therefore, represents probably 75 per

cent of all the casualty insurance and bonding business transacted in this country. The figures are included in the following table, together with totals for the two preceding years, in order that comparisons may be made if desired.

It will be noted that earned premiums dropped in 1938 from the high point of production reached in the preceding year, in spite of an increase



# X. BUSINESS AND FINANCE

## CASUALTY EXPERIENCE EXHIBIT

(Year Ended Dec. 31, 1938)

Line of Coverage	Earned Premiums	Incurred Losses Excluding Claim Expenses	Incurred Expenses Including Claim Expenses	Underwriting Profit (+) or Loss (-)
	Dollars	Dollars	Dollars	Dollars
Accident.....	35,268,203	14,002,193	18,869,254	+2,396,756
Health.....	18,086,870	12,479,521	6,605,681	- 998,332
Automobile Public Liability.....	169,385,118	71,165,979	81,646,571	+16,572,568
Automobile Property Damage Liability...	46,673,545	18,287,349	24,371,592	+4,014,604
Automobile Collision.....	3,008,134	1,396,303	1,484,411	+ 127,420
Public Liability—Other than Automobile.	70,782,126	24,527,518	41,927,490	+4,327,118
Property Damage Liability and Collision—Other than Automobile.....	3,935,209	858,819	2,129,342	+ 947,048
Workmen's Compensation.....	131,795,075	66,875,882	56,619,274	+8,299,919
Fidelity.....	36,904,868	9,269,607	20,927,965	+6,707,296
Surety.....	39,352,667	5,415,924	26,474,612	+7,462,131
Plate Glass.....	9,296,999	3,937,110	5,346,391	+ 13,498
Burglary and Robbery.....	24,426,346	5,895,329	13,338,159	+5,192,858
Boiler.....	7,543,695	835,356	7,103,184	- 394,845
Machinery.....	3,656,527	873,294	2,498,591	+ 284,642
Credit.....	749,110	333,015	367,556	+ 48,539
Sprinkler Leakage.....	627,795	193,620	368,356	+ 65,819
Miscellaneous.....	1,050,031	1,206,393	315,368	- 471,730
Total for 1938 (66 Stock Companies)....	602,542,318	237,553,212	310,393,797	+54,595,309
Total for 1937 (64 Stock Companies)....	610,729,241	254,752,730	305,713,261	+50,263,250
Total for 1936 (59 Stock Companies)....	554,818,613	245,318,918	277,449,561	+32,050,134

in the number of reporting carriers. This trend may be expected to continue in 1939 because a significant fact in the present situation is that the general rate level has been lowered during the year in almost every important department of the casualty insurance business. As a result, "The Casualty Experience Exhibit" of this year, when it is available, should show a still further recession in aggregate premium volume. It is safe to predict, also, that the underwriting profit for 1939 will be somewhat less than it was in 1938, for there are forces at work, competitive and otherwise, which will gradually narrow the margin of underwriting profit in the immediate years to come.

### AUTOMOBILE INSURANCE

In this field, which produces the largest premium volume for multiple-line carriers, the developments of the year have been of far-reaching importance. Finally stimulated into activity by the startling fact, disclosed at the end of 1938, that auto-

mobile insurance premiums of non-conference carriers for the first time in history had exceeded those of conference carriers, carriers of the latter class have introduced one important innovation after another in a strenuous endeavor to protect their competitive interests.

In the 1939 revision of rates, in addition to the usual changes in rate levels on the basis of experience, a new classification system for private passenger type automobiles was established under which risks of this character are thrown into four classifications.

Class A includes cars which are not customarily used in business except in going to and from the place of employment, as well as cars owned by farmers and clergymen. Rates for this class are 20 per cent below manual.

Class A-1 includes Class A cars operated 7,500 miles or less a year by not more than two operators residing in the named insured's household, none of whom is under 25 years of

## CASUALTY AND MISCELLANEOUS INSURANCE

age. A signed application is required attesting to these conditions, and for risks which qualify, rates are 25 per cent below manual.

Class B risks, to which manual rates apply, include all cars not eligible for Classes A or A-1 and not included in Class C.

Class C includes so-called "financial responsibility risks" where certificates are required under financial responsibility laws of the several states for various infractions of traffic rules. Rates vary from 10 per cent to 50 per cent above manual.

The "Safe Driver Reward Plan" adopted in 1938 was continued in the states where it had previously become effective and was made a part of the new rating program. This has enabled many private passenger car owners with good driving records to earn an additional credit of 15 per cent.

Additional innovations for private pleasure type automobiles applicable in a number of states include:

1. The addition, without premium charge, of coverage for the named insured and his wife:

- (a) While operating or riding in private pleasure type automobiles; owned by other persons;
- (b) For the occasional operation of hired private pleasure type automobiles;
- (c) And for personal liability arising out of the operation of private pleasure type automobiles of others by a chauffeur or domestic servant, including the operation of private pleasure type automobiles owned by chauffeurs or domestic servants.

2. The addition, at a nominal premium charge, of coverage providing reimbursement to passengers who may be injured, for necessary medical, surgical, ambulance, hospital and professional nursing services, and funeral expenses. Two limits of reimbursement coverage (\$250 and \$500 per person) are available at appropriate rates.

The countrywide level for commercial type vehicles was reduced approximately three per cent on the

basis of experience. There were no fundamental changes in methods of classifying and rating automobiles of this type. Thus the countrywide rate level of automobile insurance (meaning the average cost of insurance per insured vehicle) was materially reduced during the year. The premium volume will consequently diminish in spite of the fact that the production of private pleasure cars and commercial trucks in the United States and Canada (estimated at from 3,500,000 to 3,700,000) will exceed the production of 1938 by approximately 35 per cent.

The exact underwriting results are problematical, although it is certain that they will be far less favorable than they were in 1938. There has been a minor but progressive decrease (two per cent) in traffic deaths for the first nine months of 1939; but there are indications that this slight advantage may be lost in time. (The traffic fatality rate in 1938 was 18 per cent better than it was in 1937.) All the improvement this year has been in pedestrian deaths, which have shown a drop of 8 per cent, while other traffic fatalities evidenced no change.

In spite of the uncertainty with regard to automobile accident frequency and severity rates for 1940, the National Bureau of Casualty and Surety Underwriters (rating organization for conference carriers) has already announced that there will be no increase in rates for automobile liability insurance for private passenger type automobiles in states where the new rating plan was introduced earlier this year.

### WORKMEN'S COMPENSATION INSURANCE

No startling developments occurred in this field during the year. Insurance coverage has been completely standardized; carriers of all types are well-organized for such cooperative functions as rate-making and rate administration; there is no form of insurance which is subject to greater state regulation; the benefits which must be paid to injured employees are prescribed by workmen's compensation laws which are subject to amendment at each session of the

## X. BUSINESS AND FINANCE

state legislatures and are being interpreted constantly by quasi-judicial boards and commissions and by the courts. Under such circumstances, change is a normal condition, but it is unusual for dramatic developments to occur.

Perhaps the most significant fact of the year has been a further reduction in countrywide rate level of 5 or 6 per cent. This arises out of the fact that workmen's compensation insurance rates are keyed to the experience of the immediate past which has been favorable. Whether these rates will be adequate for the conditions of 1940, particularly if the European war continues and bursts into sudden activity, is problematical.

At this time, because of the upsurge of industrial activity in this country, there is in evidence a marked increase in claim frequency and severity which always accompanies the speeding up of productive processes, whereas the premiums are still predicated to some extent upon the lower payrolls and employment incident to the industrial activity of the past. As a result, losses may temporarily increase faster than earned premiums, thus producing an abnormal relationship which will diminish underwriting profits for the current calendar year.

### MISCELLANEOUS PUBLIC LIABILITY AND PROPERTY DAMAGE LIABILITY INSURANCE

There is no department of the casualty insurance business which is more active than this one for it is here that the ever-expanding demand for protection against legal liability for injury to the persons and property of members of the public is met. To date there has been little standardization of coverage and since new problems have been hastily solved as they arose, there has come into existence a multiplicity of policy forms and a certain lack of consistency in rating methods. This has produced a situation which is clumsy and difficult to administer.

The National Bureau of Casualty and Surety Underwriters seems finally to have recognized the need for study and organization in this field and it

is likely that another year or so will bring material improvement in coverages, classifications, underwriting rules, and methods of rating.

One largely awaited development is a plan whereby all the requirements of a large risk for liability protection may be met by a single "comprehensive liability policy" which will replace the present multiplicity of policies (on occasion some five or six separate policies are required) and "fill in the chinks" which necessarily must exist where numerous parts of a problem are considered individually and no special attention is paid to the problem as a whole.

### BURGLARY, THEFT AND ROBBERY INSURANCE

Here, also, the record shows that coverage has been broadened and the level of rates generally reduced during 1939. The largest reduction in rates occurred in residence burglary, theft and robbery insurance (4.7 per cent).

The most important changes in coverage were made in "messenger paymaster and interior robbery" policies where:

1. Twenty-four hours of protection each day may now be granted without charging, as heretofore, for additional hours outside the period from seven A.M. to seven P.M.

2. The age limit for custodians (16 to 65 years) has been eliminated.

3. So-called "kidnaping coverage" may now be added without additional charge. This coverage provides "if, after any insured premises are closed for business, the custodian is compelled under threat of violence to return and admit others thereunto, or if forcibly detained elsewhere, to provide information for or means of ingress into the insured premises, then interior robbery insurance shall apply to the loss occasioned by the stealing by such other persons of insured property from within the premises, provided such loss is the direct result of such acts and occurs prior to the opening of such premises for the regular transaction of business on the next succeeding business day."

4. The interior robbery policy has

## CHRONOLOGY OF BUSINESS AND FINANCE, 1939

been still further broadened to include without charge "daytime show-window coverage," for which a 1 per cent premium rate was formerly charged. This coverage provides that interior robbery insurance "shall apply to loss of or damage to merchandise occasioned by the felonious abstraction thereof from within a show-window in the insured premises while such premises are regularly open for business, by a person who has broken the glass thereof from outside the premises or by an accomplice of such person."

In line with the policy of attempting to attract risks which have not been previously written because the minimum cost has not been within the reach of a large class of persons of small means, the National Bureau of Casualty and Surety Underwriters this year has promulgated a \$500 residence policy providing protection against burglary, theft and robbery. Whether this policy will open up a new field of insurers remains to be seen. A similar policy, granting \$1,000 of public liability and property damage liability coverage for private passenger type automobile owners has so far been a dismal failure.

### PLATE GLASS INSURANCE

In the annual review of rates for this form of coverage, the usual territorial adjustments were made upon the basis of past experience, modified by consideration of current and probable future prices for glass and the cost of glass replacements. The general level of premiums was reduced by some 1.7 per cent.

Two important changes in coverage were inaugurated as follows: 1. Damage by acids or chemicals will now be included without the 25 per cent ad-

ditional premium charge formerly exacted for this coverage. 2. Policies hereafter will cover, without additional charge, the cost (not exceeding \$75) of repairing or replacing window sashes, boarding up or installing temporary plates, and removal and repair of fixtures or other obstructions.

### SURETYSHIP

In the field of corporate suretyship, also, the year has witnessed steady improvement of coverages and service facilities, accompanied by minor rate adjustments which, for the most part, have been advantageous to the insuring public.

### INVESTMENTS

In general, it may be said that the investment portfolios of indemnity carriers have increased in market value during the year while the average rate of return from interest and dividends has continued to decline. Because dividends of insurance carriers are normally paid out of investment income, the difficult problem at present is to maintain the high quality of investments without impairing the earning capacity of the investment portfolio.

The uncertain future of the European war and of American business and industry has caused many managements to hesitate temporarily and to refrain from embarking upon any radical change in investment policy. In fact, many finance committees are accumulating cash for the time being, awaiting some definite indication of what the future may hold. A threat in the form of a possible increased rate for money, which would seriously reduce market prices of bonds and preferred stocks, exists for all indemnity carriers whose holdings in securities of this type are substantial.

## CHRONOLOGY OF BUSINESS AND FINANCE, 1939

(From *The New York Times*)

Jan. 3—Seventy-sixth Congress convenes; signs of independence in legislation. Gold at London rises to 150s ½d, high record to date.

Sterling falls from \$4.64 1-16 to \$4.62 7-16, lowest of period except \$4.60 on Sept. 28, and comparing with \$5.00 3-16 at beginning 1938.



## X. BUSINESS AND FINANCE

- Bank of France reduces discount rate from  $2\frac{1}{2}$  per cent to 2, lowest in nearly two years.
- Jan. 4—President's message to Congress advocates preparedness against foreign dictators, defends New Deal, advocates continued spending. Stocks and bonds strong. Steel activities start year 52 per cent of capacity, against 40 per cent week before.
- Jan. 5—President's budget message estimates \$9,000,000,000 for fiscal year 1940. Estimates deficit at \$3,326,000,000 and public debt in 1940 at \$44,458,000,000. Legal limit \$45,000,000,000.
- Jan. 6—British Exchange Equalization Fund nearly exhausted. Bank of England shifts £200,000,000 gold to Fund from its own holdings of £327,000,000. Sterling rises  $2\frac{7}{8}$  cents to \$4.67 $\frac{3}{4}$ .
- Jan. 7—Sterling rises  $\frac{7}{8}$  cent further to \$4.68 $\frac{1}{4}$ . Gold bullion  $8\frac{1}{2}$ d lower at 148s 9 $\frac{1}{2}$ d.
- Jan. 9—Sterling declines 1 cent, then recovers loss. Gold falls 2d to 148s 7 $\frac{1}{2}$ d. New York stock averages down  $1\frac{1}{2}$  points.
- Jan. 11—Sterling declines 11-16 cent, then recovers 10-16. Steel output 52 $\frac{1}{2}$  per cent, against 52.
- Jan. 17—Sterling \$4.68 $\frac{1}{4}$ ; highest since Bank of England gold transfer.
- Jan. 18—Steel output 53 per cent, against 52 $\frac{1}{2}$ .
- Jan. 19—President asks Congress to extend until 1941 stabilization fund and discretionary power of further dollar devaluation, which would expire June 30, 1939.
- Jan. 20—Hitler removes Schacht from management of Reichsbank.
- Jan. 21—Stock average falls  $1\frac{1}{4}$  point. German  $5\frac{1}{2}$ s down  $1\frac{1}{8}$ ; 7s,  $3\frac{1}{4}$ . Fall of Barcelona to Spanish Rebels foreshadowed.
- Jan. 23—Heavy foreign selling of stocks on Schacht removal and incipient European war scare. New York trading 1,881,000 shares, largest since Dec. 29. New York averages decline  $4\frac{1}{4}$  points, largest decline since March 28, 1938.
- Jan. 24—Stock averages fall 1 point but recover  $1\frac{1}{8}$ ; sales 1,699,000 shares. Foreign selling continues. Much anxiety over Hitler speech to Reichstag, scheduled for Jan. 30.
- Jan. 25—Steel output declines from 53 per cent to 52.
- Jan. 26—Spanish Rebels capture Barcelona. European selling continues.
- Jan. 30—Hitler's speech to Reichstag unexpectedly mild and devoid of threats. Sharp early recovery in stocks at London, Amsterdam and Paris.
- Jan. 31—Spectacular recovery in European markets; British Government bonds up; industrial stock average at London rises  $2\frac{7}{8}$ , railway  $1\frac{1}{4}$ . Amsterdam stocks up 1 to 7 points.
- Feb. 1—Continued recovery in foreign markets, except Amsterdam. Steel output up from 52 per cent to 53 $\frac{1}{2}$ .
- Feb. 4—Compromise of TVA with Commonwealth and Southern ends long controversy over Federal and private power production.
- Feb. 8—Steel output 54 per cent, against 53 $\frac{1}{2}$  week before.
- Feb. 15—Steel output rises from 54 per cent to 55, highest since Dec. 14; compares with 31 years before.
- Feb. 22—Steel output recedes from 55 per cent to 54.
- Feb. 23—Secretary Morgenthau gives out conciliatory interview regarding Administration attitude toward business; predicting no new taxes and hinting at modification of existing taxes. Stock market strong.
- Feb. 24—Stock averages rise nearly 2 points, on active trading. New Secretary of Commerce Hopkins, formerly head of WPA, assures Economic Club at Des Moines that Administration desires business recovery and will endeavor to help it, but estimates no cut can be made in Federal expenditure.
- Feb. 27—Supreme Court, in 7-to-2 decision, declares sit-down strikes

illegal and reverses attitude of Labor Board in requiring employers to reinstate sit-down strikers.

**Mar. 1**—Bank of England applies Parliamentary statute, revaluing Bank's gold from 85s per ounce to 145s 5d. Bank's gold holdings thereby reported at £227,416,000, against £127,424,000 in preceding week. Steel output up from 54 per cent of capacity to 55½.

**Mar. 8**—Stock average up 2¼ to highest since Jan. 7; trading 1,048,000 shares, largest since January. Steel output 55 per cent.

**Mar. 11**—Rumored that President will not concur in so-called "recovery campaign" of Morgenthau and Hopkins. Removal of Slovak Premier by Czech President revives talk of Hitler interference.

**Mar. 13**—Hitler issues ultimatum to Czecho-Slovakia to divide into three states and reduce armies. Stock average falls 1½ points but recovers ½.

**Mar. 14**—German Army moves into Slovakia, threatens Czech capital. Hungary seizes contiguous Czech territory. Roosevelt defies Congress, again demands restoration of \$150,000,000 cut from WPA appropriation.

**Mar. 15**—Germans seize Prague, proclaim German "protectorate" over Czecho-Slovakia; Hitler declares "Czecho-Slovakia has ceased to exist." N. Y. stock averages down 2⅞ points, then up ⅜. Steel output rises from 55 per cent to 56.

**Mar. 17**—Rumored German demands on Rumania. N. Y. stock trading 1,470,000 shares. Stock averages down 3⅛, bonds ¾. Consols, rentes and Dutch Government bonds decline ½@1 point. Disregard of pledges and of civilized national relationships by Hitler and German Government publicly denounced by British Prime Minister and American State Department. Premier Daladier of France asks Deputies for dictatorial powers in national defense.

**Mar. 21**—Markets better. Stock averages up 1⅝, then down ½,

trading only 689,000. British, French and Dutch markets recover, consols rising ⅞@1 point. Steel activity down from 56 per cent to 55½.

**Mar. 22**—Memel surrendered to Germany; uneasiness in Lithuania and Rumania. Markets disordered; stock averages decline 3⅛ points, recovering 1⅛ later; trading 1,440,000 shares. London, Paris and Amsterdam markets break. British governments down ⅝@1 point, French rentes ½@1⅜. Steel output ½ point lower at 55½ per cent.

**Mar. 23**—All markets recover. N. Y. stock averages up 1⅜, down 1⅜. European markets recover.

**Mar. 24**—Recovery continues; stock averages up 2 points. European markets steady, French rentes up 1½ to 2 points.

**Mar. 26**—Sunday. Mussolini addresses Italian "Black Shirts." Speech contains much brag and bluster, but is considered unexpectedly mild on disputes with France.

**Mar. 28**—Madrid surrenders to insurgent army, Spanish war practically over.

**Mar. 29**—Daladier replies firmly to Mussolini. London and Paris markets strong, notably State bonds. Steel output down from 55½ to 55.

**Mar. 31**—Chamberlain warns Germany of decision by France and Great Britain to intervene if Hitler invades Poland. British, Dutch and French stock markets firm; British funds ⅞ to ¼ lower, French rentes up ¼@3⅛. N. Y. stock averages decline 4¼; largest day's decline in a year. Trading 2,888,000 shares, largest since Nov. 9.

**April 1**—Much excitement over impending Hitler speech, delivered at 11:15 A.M., N. Y. time, but radio report was suppressed. General consensus on Hitler speech, when reported by cable, was that it abandoned threats and by vagueness of its angry retort indicated diplomatic defeat.

**April 3**—Chamberlain in Commons reiterates England's pledge of aid to threatened European States;

## X. BUSINESS AND FINANCE

speeches by Winston Churchill, Lloyd George, Sir John Simon support position. London, Paris and Amsterdam stock markets strong. British State funds rise  $\frac{1}{8}$ @ $\frac{1}{2}$ ; French rentes  $\frac{3}{8}$ @ $2\frac{1}{2}$ . N. Y. stock averages rise  $2\frac{1}{8}$ , decline  $2\frac{1}{2}$  and recover  $\frac{1}{4}$ .

April 4—Stock average down  $3\frac{1}{2}$  points, recovering  $1\frac{3}{4}$ ; trading 1,533,000 shares. Day's prices below September, 1938, for first time; averages lowest since June 23, 1938. European stock markets inactive and weak.

April 5—Steel output falls  $\frac{1}{2}$  point to  $54\frac{1}{2}$ .

April 6—Stock averages fall  $3\frac{1}{4}$  points; trading 1,313,000 shares.

April 7—Good Friday; all home and foreign stock exchanges closed. Mussolini's Italian fleet attacks Albanian coast villages.

April 8—European stock markets closed for four-day week-end holiday. N. Y. stock averages decline  $3\frac{3}{8}$ ; transactions 1,640,000 shares, largest Saturday since March 6, 1937.

April 10—European stock markets closed for Easter Monday. N. Y. market recovers; stock average up  $1\frac{3}{8}$  points, trading 1,646,000 shares.

April 11—European stock markets, after four-day holiday, irregularly lower. British funds down  $\frac{5}{8}$ @ $1\frac{1}{8}$ , French rentes  $1\frac{1}{2}$ @ $3\frac{3}{8}$ , Amsterdam and Berlin very weak. N. Y. market declines under heavy sales, then regains most of losses.

April 12—Stock average rises  $3\frac{1}{4}$  points, reacting 1. London, Paris and Amsterdam markets steadier, Berlin weak. Steel output falls from  $54\frac{1}{2}$  to  $51\frac{1}{2}$  per cent, against 56 March 15 and 32 year ago. New orders reported as of "hand-to-mouth" variety.

April 13—Chamberlain and Daladier publicly reject offers of Anglo-French protection to threatened States.

April 15—Roosevelt's appeal by cable to Hitler and Mussolini published. They are asked to promise that for

10 years they will not invade any of 30 designated European States, after which agreement disarmament conference will be called. Comment on message mixed, but stock market, taken by surprise, rises  $2\frac{5}{8}$  points. Sales only 640,000 shares.

April 17—Week begins with abusive attacks on President's appeal by controlled German and Italian press.

April 19—Steel output declines from  $51\frac{1}{2}$  to  $50\frac{1}{2}$ , lowest since Dec. 28, 1938.

April 20—Mussolini answers Roosevelt contemptuously but mildly.

April 21—Market firm, trading only 392,700 shares, smallest 5-hour day since June 17, 1938; below any in 1937 or 1936.

April 26—Partly because of soft-coal strike, steel output falls from  $50\frac{1}{2}$  to  $48\frac{1}{2}$  per cent.

April 28—Hitler, addressing Reichstag at Kroll's Theatre, makes  $2\frac{1}{4}$ -hour speech in answer to Roosevelt's cable. Hitler speech not provocative, generally consists of defense and denials, but rejects Roosevelt proposals and commits Germany to nothing. N. Y. averages rise  $\frac{7}{8}$  point early, then decline  $2\frac{1}{4}$ , recovering  $\frac{1}{2}$ .

May 1—Market at standstill. Trading only 279,140 shares, fourth smallest five-hour day in 17 years.

May 3—Stock averages up  $1\frac{7}{8}$ , on small business. Steel output up slightly from  $48\frac{1}{2}\%$  to  $49\%$ .

May 9—Stock averages up  $1\frac{1}{2}$  points; sales double previous day.

May 10—May wheat rises from  $76\frac{3}{8}\%$  to  $78\frac{1}{8}$  on drought reports. Steel output down from  $49\%$  to  $47\%$ ; lowest of year to date.

May 11—May wheat touches  $80\frac{1}{4}\%$ , closing  $78\frac{3}{8}\%$ . Partial compromise reached in soft coal controversy; mining resumed. Cut in steel prices becomes general.

May 12—Cuts in rolled steel extend to \$6 and \$8 per ton.

May 13—Cut prices in steel trade withdrawn; previous net prices restored.

## CHRONOLOGY OF BUSINESS AND FINANCE, 1939

- May 17—Steel operations down from 47% to 45½%, lowest since Sept. 14, 1938.
- May 18—Pressure by British Exchequer, Bank of England, and London Stock Exchange committee, to discountenance British buying of American securities.
- May 22—May wheat at Chicago touches 81¼¢, highest since June 16, 1938. President Roosevelt, addressing American Retailers' Federation at Washington, defends spending policy, ridicules "economy bloc," declares his opponents the radicals and his New Deal adherents the conservatives.
- May 23—July wheat rises 1½¢ to 75½¢, highest of year to date.
- May 24—Stock average up 1¾ points; trading 1,013,000 shares. July wheat rises 2½¢ further to 78¢. Mainly because of coal-mining settlement and heavy bookings of steel at cut prices, steel operations up from 45½ to 58.
- May 25—Secretary Morgenthau repeats assurances of beneficial tax revision; declares progress in plan "based on general good-will." President Roosevelt says nothing.
- May 26—July wheat rises to 79¼¢, highest of season.
- May 31—Steel output up from 48% of capacity to 52%.
- June 5—U. S. bond market very strong on Treasury's refunding offer at ¾% interest, outstanding 2¾ and 3% notes sell 5½@6 1-3 points above year's lowest, touching for most issues high mark of their history.
- June 7—Steel output rises from 52% to 53%; scrap 25¢ higher.
- June 12—Wheat market weak; July price falls 1½¢ to 73½¢.
- June 13—Stocks decline 2½ on average, trading small. Steel output down from 53% to 52½%.
- June 21—Wheat falls to 69¾¢, against 79¼¢ May 26. Cotton futures, Autumn months, rise from 8.19¢ to 8.30¢ on Agricultural Department's plans for export subsidy. Steel output up sharply from 52½% to 55%.
- June 22—President Roosevelt announces new \$3,860,000,000 Federal spending plan. Bill submitted to Congress and described by him as "investment" or "self-liquidating expenditure." Wheat declines to 68½¢.
- June 26—U. S. Senate votes, 47 to 31, to remove executive power to devalue dollar, but to retain exchange stabilization fund. Also votes overwhelmingly against continuance of compulsory purchase of foreign silver, but by vote of 48 to 30 raises government price for domestic-mined silver from 64.64¢ per ounce to 77.57¢.
- June 27—London price of silver declines 1½d to 18½d per ounce, lowest since September, 1938; had been 21½d Jan. 3, 1929. N. Y. price of foreign silver down 3 cents to 39¾¢, lowest since Oct. 31, 1933.
- June 28—London bar silver ¾d lower at 18 3/16d per ounce; N. Y. price foreign silver 1½¢ lower at 38¼¢. Treasury cuts buying price from 40¢ to 38½¢. Steel output 54% of capacity, against 55%.
- June 29—Stock market average falls 2½ points on war scare over Danzig. Silver at London declines ¼d to 17½d per ounce; N. Y. down ½¢ to 37¾¢. Treasury price of foreign silver further reduced ½¢ to 38¢. After market's close, Congressional conference committee restores Administration power of dollar devaluation and foreign silver purchases.
- July 3—Stock Exchange trading 235,140 shares; smallest of any five-hour day since July 3, 1922.
- July 4—Steel output down to 40% through holiday closing of mills. London silver declines ½d to 17½d.
- July 5—Senate restores Roosevelt power of dollar devaluation, 43 to 39; fixes newly mined domestic silver price at 71.11¢ per ounce, against 77.56¢ fixed in Senate bill of June 26 and 64.44¢, previous arbitrary price.
- July 6—London silver 9-16 lower at 17 7/16d per ounce; N. Y. price 1¼¢ lower at 36½¢.



## X. BUSINESS AND FINANCE

- July 7—London silver down 1-16 to 17 $\frac{3}{8}$ d, against 18d, at close of June and 19 $\frac{5}{8}$ d June 26.
- July 8—Wheat falls to 66 $\frac{1}{4}$ ¢, lowest of 1939 to date, comparing with 79 $\frac{1}{4}$ ¢ May 26 and 66 $\frac{3}{8}$ ¢ April 6, year's previous lowest. London silver  $\frac{1}{2}$ d lower at 16 $\frac{7}{8}$ d; Treasury's buying price 35¢ per ounce against 36 $\frac{3}{4}$ ¢ July 7 and 43¢ June 27, which price had been maintained since March 29, 1938.
- July 10—July wheat 65 $\frac{1}{8}$ ¢, lowest since Nov. 26, 1938. London silver falls 13-16d to 16 1-16d; N. Y. price 1 $\frac{3}{4}$ ¢ to 34 $\frac{3}{4}$ ¢. Treasury's buying price lowered 1 $\frac{3}{4}$ ¢ to 35¢.
- July 11—Wheat up 1 $\frac{5}{8}$ ¢ from lowest, then down  $\frac{5}{8}$ ¢. London silver up 5-16d to 16 $\frac{3}{8}$ d; Treasury price unchanged.
- July 12—Stocks advance on trading of 914,000 shares, largest since May 25. Averages up 1 $\frac{7}{8}$  points; talk of industrial recovery general. London silver up 3-16 to 16 9-16d; Treasury price unchanged. Wheat declines 1 $\frac{1}{4}$ ¢ to 64 $\frac{7}{8}$ ¢; corn down 1 $\frac{3}{8}$ ¢ to 44 $\frac{1}{2}$ ¢, lowest since Nov. 4, 1938. Steel output 50%, against 40% in July holiday week and 54% in closing week of June.
- July 17—Sudden and heavy buying of stocks. Day's sales 1,750,000 shares, largest since March. Stock averages up 4 $\frac{3}{8}$  points, bond average  $\frac{3}{8}$ .
- July 18—Day's sale 1,887,500 shares. Averages up  $\frac{7}{8}$  point then down  $\frac{3}{8}$ .
- July 19—Day's sales 1,022,000, prices little changed. Steel production up from 50% to 56 $\frac{1}{2}$ %, highest 1939 to date.
- July 20—House of Representatives passes bill to investigate National Labor Relations Board, 254 to 134. July wheat falls 2 $\frac{1}{4}$ ¢ to 63 $\frac{7}{8}$ ¢, lowest of year to date; corn down 2 $\frac{7}{8}$ ¢ to 39 $\frac{3}{4}$ ¢.
- July 21—House passes, by 242 to 133, Hatch bill to restrain political activities of executive appointees; Senate agrees, without record vote. Senate cuts out \$310,000,000 from Administration spending bill. Stock sales rise to 1,265,000; averages up 2 $\frac{1}{4}$  points, down  $\frac{5}{8}$ ¢. Wheat touches 63 $\frac{1}{2}$ ¢, corn 37¢.
- July 24—Stock sales 1,069,000, prices little changed. Wheat declines 3 $\frac{1}{8}$ ¢ to 60 $\frac{3}{8}$ ¢; lowest of whole year 1939 and below any price reached since April, 1933.
- July 25—Stock trading 1,229,650 shares; prices rise but close lower. Steel Corporation reports net earnings in second quarter, above depreciation and charges, \$1,309,761, against deficit of \$5,010,426 in 1938.
- July 26—Steel output rises from 56 $\frac{1}{2}$ % to 60%; highest since November, 1938.
- July 31—Senate cuts Administration's "spending-lending bill" in two; appropriates \$1,615,000,000, against \$2,800,000,000 originally asked for.
- Aug. 1—Entire "spending-lending bill" of Administration, carrying \$1,850,000,000 as reported by House Committee, defeated 193 to 166 in House of Representatives. Stock averages up 1 point.
- Aug. 2—President, having openly expressed doubt if Hatch bill restraining political activities of executive officers will be effective, signs bill. Stock averages up 1 point, down  $\frac{1}{2}$ . Steel production holds at 50%.
- Aug. 3—Administration's \$800,000,000 Housing Bill killed by House, 191 to 170. Stock averages up 1 $\frac{3}{8}$ , down 1 $\frac{1}{4}$ .
- Aug. 5—Congress adjourns; market steady.
- Aug. 9—Steel output 61%, year's highest to date.
- Aug. 10—Stock averages decline 2 points, recovering  $\frac{1}{4}$ . Danzig speech awaited with some apprehension.
- Aug. 11—Amsterdam house of Mendelssohn suspends payments. European markets little affected by Mendelssohn failure.
- Aug. 12—Belief grows that Salzburg conference developed protest by Mussolini against action by Hitler regarding Danzig. Market strong.
- Aug. 14—Mendelssohn firm reports deficit of only 5,680,000 guilders, or \$3,000,000.

## CHRONOLOGY OF BUSINESS AND FINANCE, 1939

Aug. 16—Steel output up from 61 to 62½, equal to highest of 1938, reached Nov. 16. Stock averages down 2½ points on renewed "war talk."

Aug. 18—Stock average down 2½ points.

Aug. 20—Sunday. "Non-aggression pact" between Germany and Russia announced. All diplomatic centers astonished.

Aug. 21—Confusion and bewilderment on all markets. London weak, especially for high-grade securities. British Government war loan 3½s fall 1½ point to year's lowest; French rentes ¼ to 5¼ points. N. Y. averages down 2 points for stocks, trading 848,000 shares. Domestic bond averages ½ point lower. French, Belgian, Danish, Hungarian, Italian, Japanese dollar bonds decline sharply. Wheat rises 1½ to 1½.

Aug. 22—Foreign markets decline early, trading light. British Government bonds fall 2½ points, but recover 1½. French rentes 1 to 2½ lower. N. Y. opens fractionally higher; advance in stock averages during day 1¼ points. Wheat declines 1½ cents.

Aug. 23—Stocks decline at close; day's average down 2¼ points; European markets move irregularly. Wheat rises 3½¢ to 70½¢. European marine war risk rates trebled; coverage refused for German and Italian vessels. Steel output rises from 62½ to 63, highest since Oct. 12, 1937.

Aug. 24—Rumors of immediate aggression by Germany on Poland; Hitler apparently defiant. Bank of England rate raised from 2% to 4%, first change since June 30, 1932. London Stock Exchange fixes minimum prices on high-grade issues. Foreign markets decline; British Government loans fall 1 point, French rentes 1 to 2¼.

Aug. 25—Announcement that British Equalization Fund had withdrawn support of sterling causes decline in rate from \$4.68½ to \$4.41, lowest since Aug. 17, 1933. Francs fall

from 2.64½¢ to 2.48¢. Gold bullion at London rises 2s 1d to 150s 6d, high record price; previous record 150s 5d on Jan. 4, 1939. Further decline in stocks interrupted by reports of European compromise.

Aug. 28—Markets dominated by cables reporting Hitler's hesitation and possible mediation by Mussolini. British Government prohibits sale or transfer of foreign securities holdings without Treasury permission. Estimated British holdings American securities nearly \$1,000,000,000. Sterling falls to \$4.12 at London, but recovers to \$4.28.

Aug. 29—Exchange of notes between Chamberlain and Hitler. European markets strong. British Government 3½s and 2½s up ½ to 1½. Foreign dollar bond average rises 1¼; some Belgian and Scandinavian Government issues advance 4 to 5 points. Sterling falls to \$4.26 at London, but recovers to \$4.38; rises at N. Y. from \$4.35 to \$4.39½.

Aug. 30—British Government's reply to Germany rejects demand for consent to surrender of Polish territory to Germany. European markets strong; British funds up 1¼ to 2 points, French rentes ½ to 1¼. N. Y. stock averages rise fractionally, but decline 1½ in afternoon. Steel production 63½%.

Aug. 31—European markets lower on news of diplomatic deadlock, civilian evacuations from London and order closing London Stock Exchange on Friday, Sept. 1.

Sept. 1—War begins with invasion of Poland on four fronts by Germany. England and France send ultimatums to Germany; Italy neutral. London Stock Exchange closed pending civilian evacuation; Paris market steady, but rentes 5 points lower. N. Y. stock market confused; sales 1,966,000 shares, largest since March 31. Stock averages fall 3¼ points, then rise 4¼ points; domestic bond averages down 1½; foreign bonds 3¼. Stocks of companies making war material rise rapidly; U. S. Steel up 5½; other industrials fall, railways little

## X. BUSINESS AND FINANCE

changed. Some home bonds down 2 to 3 points, U. S. bonds fall  $\frac{1}{4}$  to  $1\frac{1}{2}$ ; dollar bonds of neutral Europe decline 4 to 6%. Sterling falls  $15\frac{1}{2}$ ¢ to \$4.19, recovering to \$4.26. Gold at London up 1s to 160s. September wheat rises  $7\frac{7}{8}$ ¢ to  $75\frac{7}{8}$ ¢ on exceptionally heavy trading.

Sept. 2—Largest Saturday stock market, 1,781,000 shares, since Nov. 23, 1935. N. Y. stock averages rise  $2\frac{7}{8}$  points, reacting  $\frac{5}{8}$ ; munitions shares lead. Domestic bond average up  $\frac{1}{2}$  point, foreign dollar bond average 1 point lower; U. S. bonds decline  $\frac{1}{8}$  to  $\frac{1}{2}$ . September wheat rises  $3\frac{1}{8}$ ¢ to 79¢, but reacts to  $76\frac{1}{2}$ ¢. Sterling declines  $6\frac{1}{2}$ ¢ to \$4.19 $\frac{1}{2}$ , recovering to \$4.20 $\frac{1}{4}$ .

Sept. 3—Sunday. France and England declare war on Germany.

Sept. 5—Wild outburst of speculation. N. Y. Stock Exchange trading in stocks 5,932,000 shares, largest since Oct. 17, 1937 and exceeding any market of 1929 prior to October panic week except 2 days in March. Dealings in bonds \$59,248,000 par value, breaking all records. Stock average rises 8% points, reacting 1%.

Commodity prices strong. Wheat up  $4\frac{7}{8}$ ¢ to  $81\frac{5}{8}$ ¢; corn  $4\frac{1}{8}$  to  $53\frac{3}{4}$ , making advances of 13% and 10 since Germany invaded Poland. Sterling down  $16\frac{1}{4}$ ¢ to \$4.04, year's low level, recovering to \$4.06 $\frac{1}{2}$ .

Sept. 6—Germans capture Polish cities; French line in West advances. London market closed; Paris steady; Amsterdam strong. N. Y. trading 3,942,000 shares; averages rise  $\frac{3}{4}$  and fall 2 points. Home company bonds and foreign bonds recover. Day's transactions in U. S. bonds record of \$72,317,000 against only \$114,875 same day in 1938; prices down  $\frac{1}{4}$  to  $1\frac{1}{8}$ . Reserve banks buy heavily. Trading in all bonds break record at \$83,234,000. September wheat rises 5¢ to  $88\frac{7}{8}$ ¢. Steel output 59%, against  $63\frac{1}{2}$ % previous week; decline due Labor Day stoppage.

Sept. 7—Germans advance on Warsaw; French move forward in West.

Sept. 8—Germans capture part of Warsaw. French move ahead. N. Y. market's trading 3,511,000 shares; averages rise 3 points and fall  $\frac{1}{4}$ .

Sept. 9—Stock sales 1,555,000; averages for stocks up 1 point and down  $\frac{1}{2}$ , for home bonds up  $\frac{3}{8}$ , for foreign bonds up  $\frac{3}{4}$ . U. S. Government bonds decline  $\frac{1}{8}$  to  $\frac{5}{8}$ . Wheat declines  $3\frac{3}{8}$ ¢ to  $81\frac{7}{8}$ ¢, recovering  $\frac{1}{2}$ .

Sept. 11—Savage fighting in Warsaw; Germans advance on three fronts. French press slowly forward in West. Stocks rise again; sales 4,678,000 shares; average up 4 points, reacting  $\frac{7}{8}$ . Home bonds strong, foreign bonds lower.

Sept. 12—Foreign markets steady; French rentes rise. N. Y. stock average up  $2\frac{1}{4}$  points, reacting  $\frac{7}{8}$ , trading 4,168,000 shares. Wheat declines  $2\frac{7}{8}$ ¢ to 81¢, lowest since war began.

Sept. 13—Stock averages up 1% down  $2\frac{7}{8}$ ; trading 3,761,000 shares. Averages home and foreign dollar bonds unchanged. London weak, Paris steady, Berlin very weak. U. S. bonds advance  $\frac{1}{8}$  to  $\frac{1}{2}$  point, trading only \$1,682,900. Sterling falls  $3\frac{1}{8}$ ¢ to \$4, lowest since June, 1933; lowest price of World War, \$4.50. Wheat rises  $3\frac{3}{8}$ ¢, reacting  $\frac{1}{4}$ . Steel output up from 59% to 71%, highest since September, 1937.

Sept. 14—German armies overrun Poland. Steel companies announce unchanged prices to year-end. Foreign markets reactionary; sterling falls 24¢ to \$3.76, lowest since April 20, 1933; recovers to \$3.90. N. Y. stock trading 2,007,000 shares, smallest since Sept. 11; sales U. S. bonds \$770,000, smallest since Aug. 31. Corporation bond sales smallest of month. Stock average up 2 points, down  $\frac{1}{2}$ . Wheat rises  $2\frac{3}{8}$ ¢, reacts  $1\frac{1}{8}$ ¢.

Sept. 15—Sterling falls 17¢ to \$3.73, recovering  $14\frac{1}{2}$ ¢. Stock averages down  $1\frac{1}{8}$ , up 1; 1,594,700 shares dealt in, smallest full day since Aug. 31.

Sept. 16—Saturday; Russia invades Poland on East; news arrives late

## CHRONOLOGY OF BUSINESS AND FINANCE, 1939

in day. Sterling declines  $6\frac{1}{2}\phi$  to \$3.81, recovers  $8\frac{1}{4}$  to \$3.89. Wheat advances  $\frac{1}{2}\phi$ , then declines  $1\frac{1}{8}\phi$ .

Sept. 18—Soviet seizes Eastern Poland. British plane-carrier *Courageous* sunk by German submarine; 578 lost. N. Y. stock averages fall  $2\frac{3}{4}$  points; sales 1,783,000 shares, second smallest day since Aug. 31. Foreign markets weak; foreign dollar bonds lower; Belgians down  $5\frac{1}{2}$  to  $7\frac{3}{4}$ , Danish  $2\frac{5}{8}$  to  $6\frac{1}{8}$ , Norwegian, 2 to  $5\frac{7}{8}$ . Sterling falls  $13\phi$  to \$3.75, recovers  $6\frac{1}{4}$  to \$3.81 $\frac{3}{4}$ . Wheat falls  $2\phi$  to  $85\frac{3}{4}\phi$ , recovering  $\frac{1}{2}\phi$ .

Sept. 19—Hitler offers peace to France and England, but on his own terms, including disruption of Poland, and in defiant language. Paris and London markets weak, Amsterdam and Berlin strong. N. Y. stock market averages rise  $3\frac{1}{8}$  points, reacting  $\frac{3}{8}$ ; bonds stronger. U. S. bonds weak, 2 issues of  $2\frac{1}{2}$ s go below par; first decline below par since April, 1937. Wheat declines  $2\frac{1}{4}\phi$ ; recovers  $3\phi$ . Sterling rises  $17\frac{1}{2}\phi$  to \$3.96, reacts  $4\frac{1}{2}\phi$ .

Sept. 20—France and England declare purpose of continuing war. N. Y. averages advance  $1\frac{7}{8}$  points, decline  $1\frac{1}{2}$ . Steel output rises to 79%, highest since September, 1937.

Sept. 21—President opens Congress special session with message urging repeal of 1937 Neutrality Law. N. Y. stock averages up  $1\frac{5}{8}$ , reacting  $\frac{3}{8}$ ; foreign dollar bonds very weak. Belgians fall 5 to 10 points, making 33 to 36-point loss since Aug. 31; Danish  $1\frac{3}{4}$  to 2, making 19 to 22 decline since August; Norwegian  $1\frac{1}{2}$  to  $7\frac{1}{2}$ , making 8 to 20 loss in four weeks. U. S. bonds decline  $\frac{1}{8}$  to  $2\frac{1}{4}$  points on increased sales; six issues below par. Sterling recovers  $7\frac{1}{2}\phi$  to \$4.00 $\frac{3}{8}$ , reacting  $7\phi$  to \$3.99 $\frac{1}{2}$ .

Sept. 22—U. S. bonds touch year's low price; six low-interest issues sell at 99 to 99.9, decline of  $4\frac{1}{2}$  to  $6\frac{7}{8}$  points from Aug. 31 and 7 to 9 from year's highest in June. Stock averages up  $\frac{7}{8}$  point, down  $\frac{1}{2}$ ; sales 1,660,000 shares, smallest full day

since Sept. 15. Belgian bonds recover 3 to  $6\frac{7}{8}$ .

Sept. 23—Foreign dollar bonds recover further, Belgians  $2\frac{1}{2}$  to 3.

Sept. 25—Stock market little changed; sales smallest since Aug. 24. General recovery in home bonds; but U. S. bonds fractionally lower. Further sharp recovery in foreign dollar bonds; French  $7\frac{1}{2}$ s up 5 points, Belgians  $1\frac{1}{2}$  to  $11\frac{1}{2}$ ; Norwegians  $1\frac{3}{4}$  to 6.

Sept. 26—Stock average up  $1\frac{7}{8}$  points, down  $\frac{1}{4}$ . Railway stock average rises  $1\frac{5}{8}$ , reacts  $\frac{1}{8}$ ; highest reached since Oct. 29, 1937. Transactions in home company bonds largest since Oct. 16, 1937.

Sept. 27—Transactions domestic company bonds \$18,431,000, largest since February, 1937. Bond averages up  $\frac{3}{8}$  point. All government bonds rise above par, after six issues had fallen to 99 to 99 $\frac{7}{8}$ . Steel output up from 79% to 84%, highest since Aug. 11, 1937.

Sept. 28—German-Soviet pact of mutual assistance published; intimated Hitler will ask for peace with Poland as "fait accompli." Bank of England rate reduced from 4% to 3%. Belgian and Scandinavian bonds rise  $\frac{1}{2}$  to 3 points further. U. S. bonds up  $\frac{1}{8}$  to  $\frac{3}{4}$ , all above par again. Stock averages down 2 points, up  $\frac{1}{2}$ ; wheat falls  $2\frac{5}{8}\phi$ .

Oct. 2—Markets reactionary on talk of peace; 837,000 shares sold, first full day below 1,000,000 since Aug. 31. Stock averages down  $1\frac{1}{2}$ , recovering  $\frac{3}{8}$ ; wheat  $82\frac{1}{4}\phi$ , down  $2\frac{1}{4}\phi$ , then up  $\frac{5}{8}\phi$ . Bond trading \$7,844,000, first full day below \$10,000,000 since Aug 31.

Oct. 4—Stock average declines  $1\frac{7}{8}$  points. Steel output rises from 84% to  $87\frac{1}{2}\%$ , highest since May 19, 1937, and, except for ten weeks in 1937, highest since 1929.

Oct. 6—Hitler makes 2-hour speech to Reichstag; asks for peace on his own terms; describes invasion of Poland as forced on Germany and Russian pact as formed for good of humanity. Stock averages rise  $2\frac{1}{2}$  points, then decline  $2\frac{3}{4}$ .



## X. BUSINESS AND FINANCE

- Oct. 9—Trading in stocks and bonds smallest of any full day since European war began on Sept. 1.
- Oct. 10—Daladier, speaking for France, rejects Hitler's proposals on ground that word of Nazi government can not be trusted.
- Oct. 11—Russia forces terms on Lithuania, submits demands to Finland, Steel output rises from 87½% to 90%, highest since May 19, 1937, when percentage was 92, high record since 1929.
- Oct. 12—Holiday in N. Y. Chamberlain in British Commons rejects Hitler offer.
- Oct. 14—British battleship *Royal Oak* sunk by German submarine, 786 lives lost.
- Oct. 16—German airplanes attack Scotch naval base unsuccessfully. N. Y. stock market unchanged; trading 485,390 shares, smallest full day since Aug. 31.
- Oct. 17—Heavy fighting on Europe's Western Front. Stock averages rise 3¼ points, largest day's advance since Sept. 5. Transactions 1,842,000 shares, largest since Sept. 27.
- Oct. 18—Stock averages up ½ point, down 1¼, sales 1,403,000 shares. Week's electric power output breaks all records. Steel output rises to 91%.
- Oct. 19—Turkey signs defensive and offensive treaty with Anglo-French allies. London market irregular, Paris stock market strongest and most active since war began, rentes rising ⅜@3½ points.
- Oct. 21—War equipment stocks strong on news \$3,500,000 order for trucks placed here by French Government. Week's railway car loadings largest of any week since Nov. 4, 1930.
- Oct. 23—Stocks and home bonds quiet; Belgian and Scandinavian dollar bonds rise ¾@2½. U. S. ship *City of Flint* captured by German cruiser; taken to Russian port Murmansk.
- Oct. 25—Steel output rises from 91% to 92%, highest of 1937 and not exceeded since September, 1929.
- Oct. 26—London bank rate lowered to 2%, against 3%, fixed Sept. 28.
- Oct. 27—Senate repeals Neutrality Law of 1937, adopting substitute by 63 to 30. *City of Flint* sails from Murmansk for Germany. Protest to Russia by U. S. State Department.
- Nov. 1—Steel output 93%; highest since 1929.
- Nov. 2—House of Representatives votes 243 to 181 for amended Neutrality Bill, which is sent to conference.
- Nov. 3—Stock trading 1,815,600 shares, market strong. *City of Flint*, having been brought as prize by German crew into Norwegian port, released to American crew by Norwegian Government; German crew interned.
- Nov. 4—1,423,620 shares dealt in, largest Saturday since Sept. 9.
- Nov. 6—Sterling falls to \$3.93½, lowest since Sept. 21. Russian Premier Molotov in public speech attacks Allies, U. S., Italy and Germany.
- Nov. 7—Bomb explosion in beer-hall celebration at Munich of organization of Nazi party. Hitler addresses gathering, but leaves before explosion. Governments of Belgium and Holland plead with Allies and Germany for peace. Election day in U. S.; old-age pension plans of \$40 to \$60 per week defeated 2 to 1 in California, 2¼ to 1 in Ohio.
- Nov. 8—State and municipal bonds up, on defeat California and Ohio pension schemes.
- Nov. 9—Home and foreign selling of stocks. Sterling declines 14½¢ to \$3.76⅞, against \$4.00½ end Oct., \$4.02 British official rate and \$3.73 Sept. 15. Selling heavy by London and neutral markets; late recovery to \$3.84½. Sudden fears of German invasion pervade Belgium and Holland. Amsterdam market down 3 to 9 points. Belgium dollar bonds fall 2½ to 3.
- Nov. 10—Sterling very irregular, declines 3 cents to \$3.81½, then recovers to \$3.86½. N. Y. stock averages fall ⅝ point to 106.72, lowest

## CHRONOLOGY OF BUSINESS AND FINANCE, 1939

- since Sept. 18, but recover  $1\frac{1}{8}$  to 107.88. Belgian and Scandinavian dollar bonds down  $\frac{1}{2}$ @2 points. Dutch stock market declines 2@16 points on invasion fears.
- Nov. 13—Dutch Government officially denies fear of German invasion. Rumor that Hitler's wish for such move had been vetoed by German Army chiefs. Negotiations of Russia with Finland at Moscow suspended by return home of Finnish delegates.
- Nov. 14—Sterling rises  $3\frac{1}{8}\phi$  to \$3.96 $\frac{5}{8}$ , then falls 3 $\phi$ . Belgian dollar bonds rise  $2\frac{1}{2}$  points.
- Nov. 15—Finland dollar bonds rise 6 points, despite attack on Finland by Russian press. Steel production up  $\frac{1}{2}$  point to 93 $\frac{1}{2}\%$ , highest since 1929.
- Nov. 17—Sterling falls  $3\frac{5}{8}\phi$  to \$3.89 $\frac{3}{4}$ .
- Nov. 20—Sterling recovers  $3\frac{3}{4}\phi$  to \$3.93 $\frac{5}{8}$ .
- Nov. 21—Sterling rises  $1\frac{1}{8}\phi$  to \$3.94 $\frac{3}{4}$ , closing at \$3.94.
- Nov. 22—Sterling breaks  $5\frac{1}{4}\phi$  to \$3.88. Steel output unchanged at 93 $\frac{1}{2}\%$ .
- Nov. 24—Sterling recovers to \$3.94 $\frac{1}{8}$ . Stock market weak; averages decline to lowest since Sept. 13.
- Nov. 28—Russia denounces non-aggression pact with Finland.
- Nov. 29—Russia invades Finland; U. S. Government proffers mediation. Finland dollar bonds decline  $4\frac{1}{2}$  points, Danish and Norwegian dollar bonds  $\frac{1}{2}$ @2 $\frac{1}{4}$ . Sterling declines  $1\frac{5}{8}\phi$ . Week's steel output rises from 93 $\frac{1}{2}\%$  of capacity to 94 $\frac{1}{2}\%$ .
- Nov. 30—Russia attacks Finland by air and sea; seizes Finnish islands, bombs and burns Finnish cities. Helsinki dollar 6s fall 11 points; Denmark and Norway dollar bonds 3@7; Finland 6s not quoted.
- Dec. 1—Finland resists invasion. Finland dollar 6s fall 16 points.
- Dec. 2—Russia sets up puppet government for Finland, but without capturing cities. Finland 6s fall  $12\frac{5}{8}$  points; other Scandinavian dollar bonds 1@3. New York market motionless; smallest Saturday trading since July. Wheat 93 $\frac{3}{4}\phi$ .
- Dec. 4—Russia rejects Finland's effort at peace; Finns resist invaders in snow. Finland dollar 6s decline 23 points, making 75-point loss from year's highest.
- Dec. 5—Storm of world-wide indignation at Russia, in which only Germany did not participate. Finland dollar bonds recover  $3\frac{7}{8}$  points, then lose  $1\frac{1}{8}$ . Wheat rises  $2\frac{5}{8}\phi$  to 96.
- Dec. 6—Finn resistance continues. Finland dollar 6s advance  $6\frac{1}{8}$  points. New York stock averages up  $1\frac{1}{8}$  points, trading 990,000 shares, largest since Nov. 10. Wheat higher at 97 $\frac{3}{4}$ . Steel output down from 94 $\frac{1}{2}\%$  to 93 $\frac{1}{2}\%$ ; new bookings smaller.
- Dec. 7—Wheat  $2\frac{3}{8}\phi$  higher to 99 $\frac{1}{2}\phi$ . Finland dollar 6s down 4 points, up 7 and down 3; Norway and Denmark bonds fall  $2\frac{5}{8}$ @6 $\frac{1}{2}$  points, recovering  $\frac{1}{2}$ @2 $\frac{1}{4}$ .
- Dec. 8—Finland continues to resist Russia. Finland 6s react  $1\frac{1}{2}$  points; Norway and Denmark dollar bonds down  $\frac{1}{2}$ @2 points.
- Dec. 11—Wheat rises to 99 $\phi$ , year's previous highest. League of Nations asks Russia to stop war on Finland and negotiate. Finland 6s down 6, then up 4. Norway and Denmark dollar bonds up  $\frac{5}{8}$ @3.
- Dec. 12—Russia rejects League request. Paris market higher, London and Amsterdam quiet. Finland 6s decline  $1\frac{1}{2}$ .
- Dec. 13—German battleship *Graf Spee* defeated by three British cruisers. Takes refuge in Montevideo, Uruguay. Wheat rises  $4\frac{1}{4}\phi$  to \$1.02 $\frac{1}{4}$ , highest since Oct. 8, 1937, and first "dollar-price" since Oct. 21, 1937. Cotton very strong; spot price 11.66 cents, highest since July 24, 1937. New York stock average rises  $1\frac{3}{4}$  points, largest advance since Oct. 17; trading 1,061,000 shares, largest since Nov. 10. Steel output declines from 93 $\frac{1}{2}\%$  to 91 $\frac{1}{2}\%$ .
- Dec. 14—Russia expelled from League of Nations. Finland 6s decline 5

## X. BUSINESS AND FINANCE

- points. Wheat rises to \$1.04, then declines to \$1.01¾. Swedish bank rate raised from 2½% to 3%.
- Dec. 15—Wheat rises to \$1.05, closing \$1.03¾. Finland 6s up 1¼, Denmark and Norway bonds ½@1¾ higher.
- Dec. 16—Wheat rises to \$1.07. Finland 6s up 1½ points.
- Dec. 17—Sunday. *Graf Spee*, ordered to leave Montevideo, blown up by German captain in harbor.
- Dec. 18—Wheat at \$1.11¾, highest since Aug. 18, 1937. United States Government bonds very strong; many issues 5@7 points above September lowest; some only ½@2 below high record. War Council of League votes help for Finland.
- Dec. 19—Wheat breaks 4½¢; spot cotton down from 11.33¢ to 11.14¢. Finland 6s decline 2 points. German ship *Columbus* scuttled at sea by captain.
- Dec. 20—Wheat declines 2¾¢ to \$1.06¾. Norway bonds rise 1½@3½ points. Steel output declines from 91½% to 89½%, largely because of repairs.
- Dec. 21—Wheat recovers 3¢ to \$1.06¾; estimate on Winter wheat published. Cotton rises from 11.06¢ to 11.31¢.
- Dec. 22—Wheat declines 3¢.
- Dec. 23—Wheat 1¾¢ lower.
- Dec. 26—May wheat down to \$1.00¾, lowest since Dec. 15; recovers to \$1.03½.
- Dec. 27—Stock trading 1,146,000 shares, largest since Nov. 9; average prices hardly changed. Bond sales \$10,843,000, largest since Sept. 28; average ¼ point lower. Finland 6s rise 4½. Steel output down from 89½% to 74%, due Christmas holiday and preparations for inventory-taking. In same week of 1938, decreased from 53% to 40%. *Iron Age* predicts recovery in first week of January to about 89½%.

## PERIODICAL PUBLICATIONS

- |   |  |
|---|--|
| <p><i>American Banker</i><br/>32 Stone Street, New York City.</p> <p><i>American Economic Review</i><br/>Northwestern University, Evanston, Ill.</p> <p><i>American Exporter</i><br/>386 Fourth Ave., New York City.</p> <p><i>American Import and Export Bulletin</i><br/>420 Lexington Ave., New York City.</p> <p><i>American Importer</i><br/>45 East 17th. Street, New York City.</p> <p><i>American Insurance Digest and Insurance Monitor</i><br/>605 North Michigan Ave., Chicago.</p> <p><i>Annalist</i><br/><i>The New York Times</i>, Times Sq., New York City.</p> <p><i>Bankers Magazine</i><br/>185 Madison Ave., New York City.</p> <p><i>Banking</i><br/>American Bankers Association, 22 East 40th. Street, New York City.</p> <p><i>Banking Law Journal</i><br/>465 Main Street, Cambridge, Mass.</p> | <p><i>Barron's</i><br/>44 Broad Street, New York City.</p> <p><i>Bond Buyer</i><br/>67 Pearl Street, New York City.</p> <p><i>Business Week</i><br/>330 West 42nd. Street, New York City.</p> <p><i>Commerce and Finance</i><br/>95 Broad Street, New York City.</p> <p><i>Commercial and Financial Chronicle</i><br/>25 Spruce Street, New York City.</p> <p><i>Credit World</i><br/>1218 Olive Street, St. Louis, Mo.</p> <p><i>Financial Age</i><br/>132 Nassau Street, New York City.</p> <p><i>Financial World</i><br/>21 West Street, New York City.</p> <p><i>Fortune</i><br/>350 East 22nd. Street, New York City.</p> <p><i>Harvard Business Review</i><br/>330 West 42nd. Street, New York City.</p> <p><i>Insurance</i><br/>671 Broad Street, Newark, N. J.</p> |
|---|--|

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

*Insurance Advocate*  
123 William Street, New York City.  
*Insurance Examiner*  
1 North La Salle Street, Chicago.  
*Insurance Law Journal*  
80 Maiden Lane, New York City.  
*Journal of American Insurance*  
230 North Michigan Ave., Chicago.  
*Journal of Business*  
5750 Ellis Ave., Chicago.  
*Journal of Commerce*  
505-7 Chestnut Street, Philadelphia.  
*Life Association News*  
11 West 42nd. Street, New York City.  
*Magazine of Wall Street*  
90 Broad Street, New York City.

*Nation's Business*  
Chamber of Commerce of the United States, Washington, D.C.  
*Spectator*  
Chestnut and 56th. Street, Philadelphia.  
*Sphere*  
Munsey Building, Washington, D.C.  
*Standard*  
141 Milk Street, Boston.  
*System and Business Management*  
330 West 42nd. Street, New York City.  
*Trust Companies*  
2 Rector Street, New York City.  
*Weekly Underwriter*  
80 Maiden Lane, New York City.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

### ECONOMICS

AMERICAN ECONOMIC ASSOCIATION, Northwestern University, Evanston, Ill.  
AMERICAN FAIR TRADE LEAGUE, 370 Lexington Ave., New York City.  
AMERICAN HOME ECONOMICS ASSN., Mills Bldg., Washington, D.C.  
AMERICAN INSTITUTE OF ACCOUNTANTS, 135 Cedar St., New York City.  
AMERICAN INSTITUTE OF WEIGHTS AND MEASURES, 33 Rector St., New York City.  
AMERICAN PETROLEUM INSTITUTE, 50 W. 50th St., New York City.  
AMERICAN RETAILERS', INC., 128 W. 31st St., New York City.  
AMERICAN SOCIETY OF CERTIFIED PUBLIC ACCOUNTANTS, National Press Bldg., Washington, D.C.  
AMERICAN STATISTICAL ASSN., INC., 722 Woodward Bldg., 15th and H Sts., N.W., Washington, D.C.  
CHAMBER OF COMMERCE OF THE UNITED STATES, 1615 H St., N.W., Washington, D.C.  
CONSUMERS' LEAGUE OF NEW YORK, 112 E. 19th St., New York City.  
CO-OPERATIVE LEAGUE OF U.S.A., 167 W. 12th St., New York City.  
FRENCH CHAMBER OF COMMERCE, 4 E. 52nd St., New York City.  
GENERAL SOCIETY OF MECHANICS & TRADESMEN OF NEW YORK CITY, 18 W. 44th St., New York City.  
HOME MARKET CLUB, 38 Chauncey St., Boston, Mass.  
INSTITUTE OF ECONOMICS, 722 Jackson Pl., Washington, D.C.  
INTERNATIONAL ACCOUNTANTS' SOCIETY, 3411 S. Michigan Ave., Chicago.  
ITALIAN CHAMBER OF COMMERCE IN NEW YORK, 80 Broad St., New York City.  
LEAGUE FOR INDUSTRIAL RIGHTS, 40 Wall St., New York City.  
MELLON INSTITUTE OF INDUSTRIAL RESEARCH, University of Pittsburgh, Pittsburgh, Pa.  
NATIONAL ASSN. OF COST ACCOUNTANTS, 385 Madison Ave., New York City.  
NATIONAL ASSN. OF CREDIT MEN, 1 Park Ave., New York City.  
NATIONAL ASSN. OF REAL ESTATE BOARDS, 59 E. Van Buren St., Chicago, Ill.  
NATIONAL BUREAU OF ECONOMIC RESEARCH, INC., 1819 Broadway, New York City.  
NATIONAL CONSUMERS' LEAGUE, 156 Fifth Ave., New York City.  
NATIONAL ECONOMIC LEAGUE, 6 Beacon St., Boston, Mass.  
NATIONAL ECONOMY LEAGUE, 280 Madison Ave., New York City.



## X. BUSINESS AND FINANCE

NATIONAL FOREIGN TRADE COUNCIL, 26 Beaver St., New York City.  
NATIONAL RESEARCH COUNCIL, 29 W. 39th St., New York City.  
NATIONAL WHOLESALE GROCERS' ASSN. OF THE U.S., 60 Hudson St., New York City.  
NEW YORK STOCK EXCHANGE, 11 Wall St., New York City.  
ORDER OF UNITED COMMERCIAL TRAVELERS OF AMERICA, 632 N. Park St., Columbus, O.

### BANKING AND CURRENCY

AMERICAN BANKERS ASSN., 22 E. 40th St., New York City.  
AMERICAN INSTITUTE OF BANKING, 22 E. 40th St., New York City.  
INVESTMENT BANKERS ASSN. OF AMERICA, 531 First National Bank Bldg., 33 S. Clark St., Chicago, Ill.  
NATIONAL ASSN. OF MUTUAL SAVINGS BANKS, 60 E. 42nd St., New York City.  
NATIONAL ASSN. OF SUPERINTENDENTS OF STATE BANKS, Nashville, Tenn.  
NEW YORK CLEARING HOUSE ASSN., 77 Cedar St., New York City.  
UNITED STATES BUILDING AND LOAN LEAGUE, 333 N. Michigan Ave., Chicago, Ill.

### INSURANCE

ACTUARIAL SOCIETY OF AMERICA, 393 Seventh Ave., New York City.  
AMERICAN INSTITUTE OF ACTUARIES, 720 N. Michigan Ave., Chicago, Ill.

AMERICAN INSTITUTE OF MARINE UNDERWRITERS, 99 John St., New York City.  
AMERICAN MARINE INSURANCE SYNDICATES, 99 John St., New York City.  
ASSOCIATION OF CASUALTY & SURETY EXECUTIVES, 60 John St., New York City.  
ASSOCIATION OF LIFE INSURANCE PRESIDENTS, 165 Broadway, New York City.  
CASUALTY ACTUARIAL SOCIETY, 90 John St., New York City.  
NATIONAL ASSN. OF LIFE UNDERWRITERS, 11 W. 42nd St., New York City.  
NATIONAL ASSN. OF MUTUAL CASUALTY COS., 60 E. 42nd St., New York City.  
NATIONAL ASSN. FOR TRAVELERS' AID AND TRANSIT SERVICE, 1270 Sixth Ave., New York City.  
NATIONAL BOARD OF FIRE UNDERWRITERS, 85 John St., New York City.  
NATIONAL BUREAU OF CASUALTY & SURETY UNDERWRITERS, 60 John St., New York City.  
NATIONAL COUNCIL OF COMPENSATION INSURANCE, 45 East 17th St., New York City.  
NATIONAL FIRE PROTECTION ASSN., 60 Battery March, Boston, Mass.  
SURETY ASSN. OF AMERICA, 60 John St., New York City.  
TRAVELERS' AID SOCIETY, INC., 144 East 44th St., New York City.

## DIVISION XI

# AGRICULTURE AND ALLIED INDUSTRIES

### CONDITIONS IN AGRICULTURE

By ARTHUR P. CHEW

ASSISTANT TO THE DIRECTOR OF INFORMATION, DEPARTMENT OF AGRICULTURE

#### AGRICULTURE AND THE WAR

Effects of the European war on American agriculture will of course far transcend the merely economic interests involved. Farmers have more at stake than just their prices and markets; they have an equal interest with nonfarmers in the outcome in terms of world politics and social conditions. Inevitably, however, they think first about the bearing of the war on the demand for their products at home and abroad, on the national crop adjustment and soil conservation programs, and on the resulting problems they will have to attack individually and collectively with the return of peace. It is already evident to them that the war complicates rather than simplifies what has been the chief problem of American agriculture almost from its beginnings; namely, the problem of its relationship to the world market.

It seems probable, from information gathered by the Department of Agriculture, that the warring nations will not have to import as much from us, either of industrial or of farm products, as they did in the early part of the World War. Economists in the Department look for some increase in the demand of belligerent countries for the products of our factories and farms. They count on increased sales, particularly of industrial products, to neutral countries, especially in South America. Some of this gain may be permanent. It will benefit American agriculture, of

course, from the stimulus it will impart to the domestic as well as the foreign consumption of American farm products, since farm incomes regularly increase with city incomes. Checks to the hope of largely increased farm returns arise from the fact that our stocks of wheat, cotton, tobacco, and feed grains are large and that Europe has large reserve stocks of foods and fibers.

Moreover, Europe has other important sources of supply. Its own farm production is up considerably from the level of 20 years ago, and Great Britain and France can draw freely on Canada, South America, Africa, and Australia. There is more ocean tonnage available now than there was in 1914-18. In consequence, our nearness to Europe is less of an advantage. Then too the world system of import controls is likely to be more efficient. On balance, though the demand for our farm products will probably increase somewhat in 1940, it will not increase sufficiently, the Government believes, to justify any great change in the A.A.A. acreage allotments. It urges farmers to keep within their acreage allotments and reminds them that, with huge supplies on hand, it will be time enough in 1940 if necessary to think about increased production.

#### ABUNDANCE FOR HOME CONSUMPTION

Consumers in the United States can look forward to abundant food sup-

## XI. AGRICULTURE AND ALLIED INDUSTRIES

plies in 1940. Crop reports in October indicated a combined production of all crops somewhat smaller than that of 1938 but about five per cent larger than the 10-year (1928-37) average. Aggregate crop production in 1939 was slightly above the average for the years that preceded the droughts of 1934 and 1936. Production of the main food crops was ample despite drought in some areas. Estimates in October of the major food grains (wheat, rye, rice, and buckwheat) showed about average aggregate production. There was large production of beans, peanuts, sugar beets, and sugarcane. Fruit production, both deciduous and citrus, gave more than the usual per capita supply. Corn production as estimated in October was 2,500,000,000 bushels, as compared with a 10-year average of 2,309,674,000 bushels. Wheat production was approximately 739,445,000 bushels, about 21 per cent less than that of 1938 but only slightly below the 10-year average. Cotton production was 11,928,000 bales, or slightly smaller than in 1938 and considerably below the 10-year average of 13,800,000 bales. Tobacco production, with record high yields, was larger than in 1938 and above the 10-year average.

Meat supplies in 1940 will be larger than in any of the years since 1934. The pig crop in 1939 was about as large as in any of the years from 1925 to 1933. Lard production will be increased sharply. Beef supplies may exceed those of 1938. There will be an increase in the number of dairy cattle; and supplies of dairy products per capita, though somewhat smaller than the large supplies of 1938-39, will be larger than for the period 1925-39. Supplies of poultry and eggs in the aggregate will be above the 1925-29 average. The total supplies of dried fruits will be unusually large. There was no justification for the runs on grocery stores that occurred soon after the war broke out, and from present indications there will be no justification for any panicky buying in 1940. Sugar supplies, for example, are abundant. Better demand for farm products in 1940 will be

somewhat offset by the presence of large supplies.

Hence the outbreak of hostilities in Europe does not warrant abandonment of the programs for soil conservation and crop adjustment. As a matter of fact, even with these programs fully maintained, the war may bring an excessive response to temporary price advances. Farmers who participate in the ever-normal-granary, crop-adjustment, and conservation programs will constitute a stabilizing influence. But there may be an increase in the number of non-participants; moreover, production may increase even on the adjusted acres, through increased intensity of cultivation. After the war, if drastic farm readjustment must be undertaken again, the crop-adjustment and soil conservation programs afford means of doing it quickly and adequately. As it well known, the national farm program makes two main responses to the farm problem: (1) adjustment of farm production more nearly to the combined foreign and domestic demand, and (2) raising of domestic agricultural prices above world prices when world prices are depressed, or equivalent action in raising the income of farmers from the domestically consumed part of their production. These procedures, the Administration believes, will be necessary for some crops during the war and for many crops when the war ends.

### FARM INCOME

Cash farm income from marketings and Government payments in 1939 amounted to about \$8,300,000,000, as compared with \$8,109,000,000 in 1938 and \$9,111,000,000 in 1937. Before the outbreak of war in Europe the receipts from marketings of farm products were lagging behind those in the corresponding months of the previous year in spite of material improvements in business conditions. Following the outbreak of war the prices of many products advanced sharply. Receipts from marketings increased so that the total for the year slightly exceeded that for the previous year. The cash income from marketings

## CONDITIONS IN AGRICULTURE

was about \$7,625,000,000, as compared with \$7,627,000,000 in 1938. Government parity payments and soil-conservation payments to farmers totaled about \$675,000,000, as compared with \$482,000,000 for the previous year.

Accumulated surpluses of fats and oils depressed the price of lard and consequently to some extent the price of hogs. As a result the income from hogs declined in spite of the increase in the purchasing power of the consumers of meats. Large stocks of butter and large supplies of other fats and oils held down the income from dairy products.

Larger returns from cattle and lambs contributed to an increase in income from meat animals. The income from the marketings of livestock and livestock products totaled about \$4,435,000,000 as compared with \$4,385,000,000 in 1938.

Toward the end of the year the prospect was for an increased demand for farm products and for a farm price average in 1940 somewhat higher than that of 1939. There were indications that the advance in the prices of farm products would be greater than the advance in the prices of goods and services that farmers usually buy; in other words, that the buying power of farm products, which advanced from an index of 74 in July to 80 in October, would show a further gain.

### WEATHER CONDITIONS

The spring (March-May) was warmer than normal throughout the country except in a limited area from the upper Great Lakes eastward. March was relatively dry in much of the Midwest, and April decidedly so in the Great Plains, the Rocky Mountain States, and the Pacific Northwest. Because of continued scanty rainfall, severe droughty conditions developed over a large western area by the middle of May. Temperatures were high and the need for rain became pronounced from central Kansas and Missouri northward, and northwestward to the Canadian border. May brought generous and extensive rains to most Midwest sections. Some sections in the south-

west, including most of New Mexico and Arizona, continued dry. June had abundant rains except in the southwest where a considerable area continued dry, including principally Colorado, New Mexico, and Arizona.

In July 1939 a serious drought developed in the northeastern states, unfavorably affecting an area from New Jersey and Pennsylvania northeastward. Some sections had the greatest July rainfall deficiency in half a century up to nearly the close of the month when there were intermittent showers on several days. However, these were decidedly local in character and irregular in amount. Early in August additional rains occurred over most of the northeastern area. Urgent need for rain continued over a large southwestern section and also throughout the Great Plains from North Dakota to the Rio Grande. Most other interior states had sufficient moisture for current crop needs.

During the last half of August 1939 one of the most widespread and severe fall droughts ever recorded in this country began. Absence of material rainfall was accompanied by abnormally high temperatures. Throughout the western Winter Wheat Belt the subsoil became very dry. In large areas the topsoil was so dry that farmers had to defer their seeding in many places. Much dry-seeded wheat did not germinate. In the interior states between the Appalachian and the Rocky Mountains there was very little rainfall in September until near the end of the month, when widely distributed beneficial showers fell. Early in October many sections had additional moisture, which was particularly helpful in the central and western Winter Wheat Belt.

Extreme dryness again set in, the drought extending into the southeastern states, where rainfall had previously been sufficient. October had very little moisture until near the close of the month, when substantial to heavy rains fell in most localities in the lower Great Lakes area, the central Mississippi and Ohio valleys, and the Appalachian Mountains. No appreciable rainfall occurred over the



## XI. AGRICULTURE AND ALLIED INDUSTRIES

Great Plains states, however, and extremely droughty conditions continued in that area.

### THE A.A.A. PROGRAM

Nearly 6,000,000 farmers cooperated in the A.A.A. programs and also participated in local, state, regional, and national program planning. Local farmer committees functioned in more than 3,000 agricultural counties. Farmers administered the program locally through these committees and exerted an influence also through their recommendations on general-policy formulation. Altogether there were more than 100,000 of these farmer committeemen; they represented a new force in American agriculture and a new method of bringing farmer experience and farm views to bear on the national farm policy.

Since 1935 farmers in the A.A.A. programs have reduced the more exploitive land uses, increased the area in soil conserving crops, and contributed to supply adjustments. In the aggregate they have diverted about 30,000,000 acres from soil-depleting crops to grasses and legumes. In 1938 the harvested area in soil-depleting crops was down to about 293,000,000 acres. The A.A.A. goal for the time being for these crops is from 275,000,000 to 290,000,000 acres. Along with this adjustment, which meantime provides ample farm supplies both for domestic consumption and for export, the program improves the soil. In 1938 new seedings of grasses and legumes exceeded 30,000,000 acres, and the acreage in green-manure and cover crops exceeded 25,000,000 acres. This was about double the acreage in green-manure and cover crops under the program of the previous year.

Farmers in 1938 improved more than 3,000,000 acres of pasture by reseeding and applied 5,547,000 tons of lime and fertilizer to soil-conserving crop land. In the northeastern states a sufficient proportion of the farm land was already in pasture and hay. The program in that region became one of continuing the use of soil-conserving practices and increasing the productivity of the land.

In the South the program encouraged more food and feed production for consumption on the farm and less production of cotton. The accompanying shift away from the cotton single-crop system tended to bring about a more permanent type of agriculture. In the east central states farmers built up their land for pasture and hay crops.

Cooperating producers of wheat, corn, and cotton contributed to the maintenance of an ever-normal granary and to a better regulated flow of these products to market through the storage of surpluses under government loans. In the Corn Belt the corn-acreage situation, combined with the ever-normal granary, improved the corn-hog adjustment. In like manner, the wheat program, with its fourfold union of acreage adjustment, storage in the ever-normal granary, crop insurance, and promotion of exports, improved the wheat situation. In 1940 the A.A.A. program will put increased emphasis on soil conservation, provide increased opportunity for participation by small farmers, and give greater responsibility to farmer committees. It will involve no major change from the 1939 program.

### THE FOOD-ORDER STAMP PLAN

In May the Government started a food-order stamp plan which combines surplus removal with aid to the needy. The consumption of dairy and poultry products and of fruits and vegetables goes up and down with consumer income. When income is low the consumer is likely to go short on these commodities, even though his diet and health may suffer. The stamp plan gives low-income consumers the buying power to secure these needed foodstuffs.

Under the stamp plan, which is entirely voluntary, relief families may purchase orange-colored stamps at the rate of \$1 a week for each member of the family as a minimum, or at the rate of \$1.50 a week for each member of the family as a maximum. For each dollar's worth of orange-colored stamps purchased, 50 cents worth of blue surplus stamps are given free to the family. Both types

## CONDITIONS IN AGRICULTURE

of stamps can be used for food in any grocery store in the area in which the plan is operating.

The orange-colored stamps can be used for any food usually purchased in grocery stores and also for such items as soap and starch but can not be used for tobacco or alcoholic beverages. The blue surplus stamps can be used only for those food products which are declared by the Secretary of Agriculture to be surplus and are listed in the surplus-commodity bulletin in force currently. The blue surplus stamps represent an increase of 50 per cent in food purchases by relief families. They mean that each member of the family can spend at least \$1.50 for food, instead of the \$1 which was being spent in most instances before food stamps were available.

In addition to providing a wider market for the farmer and supplementing the diet of needy families, the operations of the stamp-plan program help all business by bringing about an increased flow of foodstuffs through the normal channels of trade.

Following the inauguration of the stamp plan in Rochester, N.Y., the program was put in operation on an experimental basis in five other cities during the summer of 1939. By the end of the summer preliminary studies showed that the mechanical operation of the plan was satisfactory and that the results accomplished were encouraging enough to warrant gradual expansion of the plan to other cities throughout the country. It was evident that a much longer period would be necessary to determine definitely the complete economic effect of the program. Continued close study and observation, therefore, will accompany the gradual expansion.

The stamp plan promised significant new markets for various agricultural commodities. Actual purchases made with the blue surplus stamps indicated that low-income consumers, given increased buying power, will purchase sharply increased amounts of dairy and poultry products, and fruits and vegetables, as well as other agricultural commodities. The po-

tential new market for these elastic demand commodities, if the stamp plan were in operation on a national basis, is of vital interest to agricultural producers.

A national school-lunch program proved to be one of the most important features of the direct purchase and distribution operations. Donation of surplus commodities, bought by the Federal Surplus Commodities Corporation, made possible free school lunches in 14,000 schools in low-income areas, serving a total of more than 800,000 children. Schools in every state, as well as in Puerto Rico and the Virgin Islands, participated. The free-lunch program is a joint project carried out in cooperation with the Work Projects Administration and local educational, civic, and welfare agencies. Definite expansion of this school-lunch program was started in the summer of 1939. It was hoped that the program would be serving 5,000,000 undernourished children by the end of the current school year. Such expansion would not only provide health-building lunches for millions of needy children but would also provide additional outlets for agricultural surpluses.

### COTTON EXPORT PROGRAM

Extremely small exports in the face of record-breaking supplies, the accumulation of more than 11,000,000 bales of cotton under government loans, and the necessity of retaining a large export market for cotton as the only alternative to painful and costly adjustments in our national economy made it imperative to change certain aspects of the cotton program. It was evident that a program which permitted more cotton to pile up in the loan stocks and a continued reduction in our share of the world market would lead to disaster. The 76th Congress considered several different proposals for dealing with the situation.

One proposal that received considerable support involved the fixing of prices to domestic consumers. This proposal would either have required the policing of millions of transactions or the taking over by the Government of a large part of the func-

## XI. AGRICULTURE AND ALLIED INDUSTRIES

tions now performed by the cotton merchants of this country. Hence, opposition to it developed. The problem before Congress finally became a practical matter of choosing on the one hand between making payments on exports in order to offset some of the undesirable effects of the loan, and on the other hand of permitting more cotton to accumulate in the loan stocks with adverse effect on the export situation. A plan for making export payments was approved, and funds were appropriated for this purpose.

The export-payment program, effective July 27, 1939, provided payments to exporters on the exports of raw cotton and comparable amounts on the exports of cotton textiles. These payments undoubtedly caused prices of American cotton in foreign markets to be lower absolutely as well as in relation to the prices of other cottons than they would have been otherwise. Consequently, the effect on exports was almost exactly the opposite of the effect of the loan program. There is no doubt that the export-payment plan was an important factor in the sharp increase in exports that took place during the first four months of the current season. Moreover, by stimulating exports and decreasing the supply of American cotton available to domestic manufacturers, the plan caused the domestic prices of cotton to be higher than they would have been otherwise.

It was hoped that the need for making export payments would be temporary. Nevertheless, since the United States can hardly be expected to restrict further its acreage and production, the payments may have to be continued until some other means can be found of assuring the United States a fair share of the world's cotton market. One way of making the export-payment program temporary, Secretary Wallace declared, would be the conclusion of an effective and equitable international cotton agreement. Such an agreement would assure each exporting country its share of the world market, and would help also to support a reasonable level

of world cotton prices. As a primary step in bringing about such an agreement, the United States took the initiative for arranging a preliminary meeting of representatives of the various cotton-exporting countries. This meeting was held in Washington Sept. 5-9, 1939. Practically all of the important cotton-exporting countries were represented.

A reduction in the rate of payment under the cotton export program was announced Dec. 5 by the Secretary of Agriculture. The new rate is 0.75 cent per pound of lint cotton exported, instead of the original rate of 1.5 cents per pound. Equivalent reductions became effective for payments on the export of cotton goods.

Sales and deliveries of cotton for export from the beginning of the program through Dec. 4 totaled 4,344,354 bales. This was 982,000 bales more than the total export of cotton from the United States during the entire 1938-39 crop year. In addition, sales and deliveries of cotton products in the equivalent of 226,000 bales were made during this period. This also was far above the total export of cotton products in 1938-39.

The apparent export demand indicated probable continued favorable export sales with the reduced payments. The reduction in payments made possible continuation of the program for a longer period with the available limited funds. Officials of the Department of Agriculture believed this would result in greater total exports than would be possible if the previous rate had been kept up until it became necessary to discontinue the program entirely.

### WHEAT MARKETING

As in 1938 the Government provided an export subsidy for wheat. For the year ended June 30, 1939, sales of wheat and flour for export totaled about 118,000,000 bushels, of which about 107,000,000 bushels were exported before the end of the fiscal year. These sales included 90,000,000 bushels of wheat and 28,000,000 bushels of wheat in the form of flour. Of the total sales for export, sales of approximately 94,000,000 bushels were



## CONDITIONS IN AGRICULTURE

assisted by the Federal export program. These sales consisted of about 70,000,000 bushels of wheat in the form of grain sold by the Federal Surplus Commodities Corporation for export and 24,000,000 bushels of wheat in the form of flour on which an indemnity was paid. During the last part of the fiscal year, the Federal Surplus Commodities Corporation purchased 4,400,000 bushels of wheat from the Commodity Credit Corporation under the wheat-loan-liquidation program. This purchase of wheat is not included in the above figures.

Net exports of 107,000,000 bushels for the year ended June 30, 1939, were considered to be a fair share of the world shipments of approximately 600,000,000 bushels for that year. It was for the purpose of securing approximately this share of the world export trade that the Federal Surplus Commodities Corporation financed the export of 94,000,000 bushels of wheat during the 1938-39 marketing year. It has continued the export program since July 1, 1939, but at a greatly reduced volume. During the 1938-39 marketing year, payments under the export program averaged about 29 cents per bushel. Since Sept. 1 the payments have averaged about 25 cents per bushel. They have helped to export a small quantity of wheat, chiefly to Central and South America.

### FEDERAL CROP INSURANCE

"All-risk" crop insurance for wheat was introduced during the 1939 crop year. Appraisal of the plan can not be made from the results obtained in a single crop year but must await the experience of a period of years. However, the ready acceptance of the program by wheat growers, its workability from the standpoint of administration, and the measure of protection that it has provided, indicate that crop insurance may become an important part of the ever-normal granary.

Authorized under Title V of the Agricultural Adjustment act of 1938, the plan for crop insurance of wheat is relatively simple. It consists of an

insurance reserve of actual wheat in storage, which is built up by premium payments of growers who insure their crops. Growers may insure either 50 or 75 per cent of their average yields against all unavoidable losses. The yield that may be insured, and the premium rate that is to be paid for such insurance, are determined by actual or appraised yield and loss experience for the farm during the representative base period.

In case of unavoidable loss which reduces the insured crop below the insured amount, the grower is entitled to an indemnity from the insurance reserve sufficient to bring his actual production, plus the insurance indemnity, to the insured amount. The plan operates on an "in-kind" basis. Insurance is written in terms of bushels. Premiums and indemnities are calculated in bushels. However, for convenience, the actual payment of premiums and indemnities may be made in the cash equivalent.

Approximately one out of four growers who insured their 1939 wheat production was entitled to an indemnity as a result of crop loss. This ratio of losses is believed to be reasonably in line with normal expectations for a year in which the yield of the insured crop was approximately 10 per cent below the average yield of the base period. Losses were particularly extensive and severe in five Great Plains states where the greatest acreage was insured—Oklahoma, Texas, Kansas, Nebraska, and South Dakota—and the 1939 yield was 13.5 per cent below the base period average. Policies in these five states represented 37 per cent of the national insured acreage, and losses on this acreage resulted in 59 per cent of the total number of indemnities and 73 per cent of the total bushels of indemnities.

Adjustment of 1939 crop losses was practically completed by November. The Federal Surplus Commodities Corporation has paid indemnities totaling approximately 7,687,656 bushels on 42,420 claims submitted by insured growers, and was in the process of settling claims involving an additional 1,774,074 bushels, bringing



## XI. AGRICULTURE AND ALLIED INDUSTRIES

total indemnity obligations to 9,461,-730 bushels.

The wheat reserve accumulated from premium payments provided wheat for payment of 6,769,120 bushels of indemnities. As of Oct. 31 capital funds, provided for the express purpose of balancing the reserve in years that indemnities exceed premium payments, had been used to pay indemnities representing 2,692,010 bushels, equal to an expenditure of approximately \$1,430,000. In normal operation of the program, the position of the reserve will fluctuate with crop conditions from year to year, but over a period that is representative of the base period the premiums paid by growers should approximately balance with the indemnities they receive.

The background of wheat crop insurance and its legislative history

clearly implies that this program is to be regarded as a possible forerunner of similar programs for other crops. The act provides for research to determine the feasibility of extending insurance protection to crops in addition to wheat.

Accordingly, the Bureau of Agricultural Economics has studied the operations of the wheat program, particularly the application of actuarial data, and has made actuarial investigations for other crops, notably cotton, corn, and citrus fruits. It has attempted to measure the risks involved, to assemble and analyze county yields and losses, to establish an actuarial basis, and to develop suitable crop-insurance plans. In May, 1939 the Bureau outlined a suggested plan for cotton crop insurance, and in 1940 it may complete a similar proposed plan for corn.

### COTTON AND GRAIN CROPS

By JOSEPH A. BECKER

AGRICULTURAL MARKETING SERVICE, DEPARTMENT OF AGRICULTURE

#### COTTON PRODUCTION

The 1939 cotton crop of 11,792,000 bales of 500 pounds gross weight was only slightly smaller than the 1938 crop of 11,943,000 bales. The 1939 crop, however, was 15 per cent less than the average<sup>1</sup> crop of 13,800,000 bales. Cotton production in 1939, like production in 1938, was featured by high yields per acre on a very small acreage. Continued relatively low prices for cotton at planting time and reduced allotments under the Agricultural Conservation Program combined to hold the acreage to the lowest in this century. Generally favorable growing conditions, particularly in the central and western portions of the cotton-producing area, resulted in a pre-acre yield which was a fourth more than average and which was exceeded only by the record yield of 1937.

The cotton-producing season started

<sup>1</sup> Average acreage, yield, and production, when mentioned, relate to the 10 years, 1928-37, inclusive.

favorably, particularly in the Carolinas and Georgia. Early reports on boll weevil presence and activity indicated that the loss from this source would be about average for the United States, but somewhat more than average in the states east of the Mississippi, except in Tennessee. In the states west of the Mississippi, less than average loss from weevil was indicated. During August, conditions affecting the crop were generally quite favorable, and prospects improved in all states except Virginia, North Carolina, Florida, and New Mexico. There was material improvement in Texas where conditions were unusually favorable for the crop in the northwest (Panhandle). Marked improvement also was shown in Oklahoma and the states adjoining the Mississippi River. In Alabama and Georgia heavy rains caused damage in some sections, but these losses were more than offset by improvement elsewhere. In Virginia and North Carolina increased boll weevil damage reduced prospects.

## COTTON AND GRAIN CROPS

During September prospects declined in most states. In Oklahoma and Texas the reduction was brought about by hot, dry weather, which stopped development and caused premature opening. In the central portion of the Cotton Belt long periods of dry weather were unfavorable for late fruiting, and weevil damage apparently was somewhat heavier than indicated earlier. In some states, however, the situation was different. The crop in Louisiana was more advanced than in other states of this section and was not adversely affected. In the Carolinas the dry weather of September more than offset the effects of excessive rainfall in the preceding months and was unusually favorable for maturing and picking the crop. Prospects continued excellent in the irrigated sections of the West. During October and November the weather continued unusually favorable for picking and ginning the crop. Rapid ginning was made possible by the comparatively small crop, and on Dec. 1, the proportion of the crop ginned was the highest on record. Data on acreage, yield, and production are shown in the following table:

It will be noted that Texas, as usual, ranks first in the production of cotton, followed, in order, by Mississippi, Arkansas, and Georgia. South Carolina, with a record yield per acre, produced a relatively large crop in 1939 and ranked fifth in production. Greatly increased production, in comparison with average, is shown in Missouri, Arizona, and California, while material decreases are shown in Virginia, North Carolina, and Florida.

### COTTON YIELDS

The yield per acre of 235.9 pounds for the United States for 1939, although only one-tenth of a pound per acre higher than in 1938, was second only to the record 1937 yield of 269.9 pounds per acre. The average yield per acre is 190.8 pounds. The high yields per acre resulted, in part, from the favorable season and in part from the use of better lands, increased fertilization, and more intensive cultivation that go with reduced acreage. The yield per acre was exceptionally high in South Carolina, Missouri, and California, and was much above average in the Mississippi Delta states. In comparison

### COTTON ACREAGE AND PRODUCTION

State	1928-37 Average	Acreage in Cultivation on July 1 1000 Acres		Yield Per Harvested Acre Pounds			Production 1000 bales (500 lb. gross wt.)		
		1938	1939	1928-37 Average	1938	1939	1928-37 Average	1938	1939
Missouri.....	399	362	378	313	450	561	252	336	440
Virginia.....	71	42	34	284	149	174	40	12	12
North Carolina.....	1,255	884	759	281	216	291	702	388	455
South Carolina.....	1,717	1,263	1,247	243	249	342	827	648	870
Georgia.....	2,827	2,064	1,998	212	203	226	1,192	852	916
Florida.....	116	82	74	144	163	79	34	26	11
Tennessee.....	983	742	752	238	320	297	466	490	450
Alabama.....	2,967	2,079	2,117	205	251	183	1,203	1,081	780
Mississippi.....	3,566	2,622	2,645	225	322	301	1,596	1,704	1,585
Arkansas.....	3,048	2,165	2,187	212	304	318	1,273	1,349	1,410
Louisiana.....	1,658	1,140	1,160	214	289	318	711	676	750
Oklahoma.....	3,341	1,733	1,836	133	163	141	876	563	520
Texas.....	14,237	9,163	9,004	147	168	157	4,077	3,086	2,830
New Mexico.....	123	97	97	406	489	499	98	96	97
Arizona.....	190	203	188	371	462	504	149	196	197
California.....	280	356	335	491	566	658	290	424	450
Ill., Ky., Kan.....	24	21	21	275	379	443	14	16	19
United States.....	36,801	25,018	24,832	190.8	235.8	235.9	13,800	11,943	11,792

## XI. AGRICULTURE AND ALLIED INDUSTRIES

with average, yields were low in Virginia, Florida, and Alabama.

### COTTON ACREAGE

The acreage of cotton in cultivation on July 1, 1939 of 24,832,000 acres was only 1 per cent less than in 1938, but was 33 per cent less than average. In comparison with 1938, the 1939 acreage was sharply reduced in Virginia, North Carolina, and Florida. In the other states the acreage ranged from 7 per cent less to 6 per cent more than in 1938. A small acreage of cotton throughout the Belt was removed early in the growing season to bring the acreage on individual farms within the acreage allotments. There were additional losses from adverse weather conditions, insect and plant disease damage. In all, approximately 900,000 acres, equivalent to 3.6 per cent of the planted acreage, was abandoned. In 1938, 24,248,000 acres were harvested and the abandonment in that year was 3.1 per cent. The average acreage of cotton harvested is 34,984,000 acres and average abandonment, 2.1 per cent. Included in the totals shown above in the table by states were 25,000 bales of Arizona Egyptian cotton produced on 41,000 acres of land, and 1,900 bales of Sea Island cotton produced on 18,600 acres of land, principally in Georgia and Florida. In 1938, production of Arizona Egyptian was 21,000 bales on 44,000 acres, while production of Sea Island in 1938 amounted to 3,400 bales on 30,000 acres.

### VALUE OF COTTON PRODUCTION

The total value of lint and seed from the 1939 cotton crop, based on prices paid to producers up to Dec. 1, was \$637,625,000 compared with \$629,328,000 for the 1938 crop and \$960,554,000 for the 1937 crop. The 1937 and 1938 prices represent local prices as of the 15th of each month from August to July, weighted by the quantity sold each month. The values stated do not include Agricultural Conservation Program payments. Of the 1939 value, \$524,090,000 relates to the lint and \$113,535,000 to the seed. Although practically all the lint is

sold, a portion of the cottonseed is retained on the farms for seed, feed, and fertilizer. The price (to Dec. 1) of cotton lint for the 1939 crop was 8.90 cents per pound as compared with the season average of 8.60 cents for the 1938 crop and 8.41 cents for the 1937 crop. Cottonseed price per ton in 1939 (to Dec. 1) was \$21.67 as compared with the season average of \$21.79 for the 1938 crop and \$19.51 for the 1937 crop.

### GRAIN CROPS

Grain production in 1939 was featured by a large corn crop which was produced on a relatively small acreage. The rice crop also was large, and barley and rye production were above average. The wheat crop was just about average, and the buckwheat and oats crops were short. The total production of grain crops used primarily for human food—wheat, rye, buckwheat, and rice—was 852,000,000 bushels, which is 19 per cent less than the relatively large combined production of 1938 of 1,046,000,000 bushels, but slightly larger than the average of 841,000,000 bushels.

### WHEAT

The 1939 wheat crop of 754,971,000 bushels was slightly above the average production of 752,952,000 bushels, but 19 per cent less than the relatively large crop of 931,702,000 bushels produced in 1938. The 1939 crop was more than enough to meet the average of about 675,000,000 bushels utilized in recent years for domestic consumption. The harvested acreage of wheat of 53,696,000 acres was materially less than the 69,869,000 acres harvested in 1938, and 4 per cent less than the average acreage of 55,804,000. The total acreage of wheat sown, including some duplication of spring wheat sown on abandoned winter wheat acreage, was 63,896,000 acres, which was a material reduction from the 79,565,000 acres seeded for the 1938 harvest and about 8 per cent less than the average acreage of 69,310,000 acres. The material reduction of acreage in 1939 in comparison with the preceding two years was the result of acreage allotments for that



## COTTON AND GRAIN CROPS

crop established under the Agricultural Conservation Program. For the 1937 crop the Department did not have authority to establish wheat acreage allotments, and for the 1938 crop authority was not granted in time to permit the establishment of allotments.

Although only 70 to 85 per cent of the wheat crop is sold off farms, the valuation of production at the sale price gives a measure of the importance of this crop to the agricultural industry. At the season-average price to Dec. 1 of 67.6 cents, the value of the 1939 wheat crop would be \$510,667,000. The 1938 crop, at the season-average price of 56.1 cents per bushel, similarly would be valued at \$522,639,000.

### WINTER WHEAT

Winter wheat for harvest in 1939 was sown on a greatly reduced acreage, largely because of the establishment of acreage allotments, and also because of relatively low prices received for the 1938 crop and comparatively unfavorable conditions for seedings in various parts of the winter wheat area. In all, 46,364,000 acres were seeded in comparison with 56,539,000 acres in the preceding fall. The seedings for the 1939 crop were not much different from the 10-year average of 46,996,000 acres. There was a general improvement in prospects during the winter, except in California and a few scattered areas elsewhere, and marked improvement occurred in the southern Great Plains area where dry weather at and following seeding resulted in generally poor prospects at the beginning of winter. Although somewhat dry, the winter was generally favorable in this area, and March rainfall was above normal. The abandonment of winter wheat was about 18.5 per cent, which was only slightly less than the average abandonment of 18.7 per cent. The abandonment in 1939 included some acreage diverted to uses other than for grain, some of which diversion resulted from farmers' adjustments of their seeded acreage to the acreage allotments under the Agricultural Conservation Program. The

yield per acre in 1939 of 14.9 bushels per acre was slightly above the average yield of 14.5 bushels. The production of 563,431,000 bushels was materially less than the 688,133,000 bushels produced in 1938, but a fraction of 1 per cent above the average winter wheat crop of 560,160,000 bushels.

### SPRING WHEAT

Production of spring wheat in 1939 of 191,540,000 bushels, like the winter wheat crop, was materially less than the 1938 crop of 243,569,000 bushels, but not much different than the average production of 192,792,000 bushels. The acreage of spring wheat seeded for harvest in 1939 of 17,532,000 acres was 24 per cent less than the seedings in 1938 of 23,026,000 acres. The seedings for the 1939 crop also were 21 per cent less than the 10-year average seedings of 22,314,000 acres. The spring wheat crop was seeded relatively early in most areas, but because of hot, dry weather in early May growth was retarded and the stands were short and uneven. High temperatures during May caused damage in the northern Plains area and favored the development of grasshoppers. During June, relatively cool weather and ample rainfall over most of the spring wheat areas of the northern Plains improved the yield prospects somewhat. Traces of stem rust appeared, but a large proportion of the acreage was seeded to Thatcher and other rust-resistant varieties. During July, prospects improved materially in the Dakotas, Nebraska, and the Pacific Northwest. Yields per acre eventually turned out to be considerably above average.

The production of durum wheat in the three states for which separate estimates are made—Minnesota, North Dakota, and South Dakota—was 34,360,000 bushels, somewhat below the average production of 35,076,000 bushels and materially below the 1938 crop of 40,697,000 bushels. The acreage sown to durum wheat in 1939 was 3,220,000 acres in comparison with 3,887,000 acres in 1938 and the average of 3,968,000 acres. Abandonment was less than the average of recent



## XI. AGRICULTURE AND ALLIED INDUSTRIES

years, and 3,066,000 acres were harvested in comparison with 3,569,000 in 1938 and the average of 3,355,000 acres.

Production of spring wheat other than durum was 157,180,000 bushels compared with 202,872,000 bushels in 1938 and the average of 157,716,000 bushels. Seedings in 1939 were 14,312,000 acres in comparison with 19,139,000 acres for 1938 and the average of 18,346,000 acres. Losses of acreage from seeding time to harvest were relatively light in 1939, and 12,828,000 acres were harvested in comparison with 16,514,000 acres in 1938 and the average of 14,290,000 acres.

### RYE

The 1939 rye crop of 39,249,000 bushels was slightly larger than the average crop of 36,330,000 bushels, but was materially below the relatively large 1938 crop of 55,564,000 bushels. The acreage seeded to rye for all purposes in the fall of 1938 was 7,187,000 acres in comparison with 6,716,000 acres seeded in the preceding fall and an average of 5,937,000 acres. A considerable part of rye seedings are intended for use as pasture and cover crops, not for harvest as grain. The winter season was favorable for rye in the west North Central region, which includes the most important rye-producing states. A mild winter overcame a relatively poor start in the preceding fall. Abnormally hot, dry weather during late April and the first three weeks of May resulted in a reduction in the acreage for harvest and reduced yield prospects on the acreage remaining for harvest in the important producing states of Minnesota, North Dakota, South Dakota, and Nebraska. Eventually, 3,811,000 acres were harvested for grain in comparison with 4,021,000 acres in 1938 and the average of 3,179,000 acres. The yield per acre was only 10.3 bushels in comparison with 13.8 bushels in 1938 and the average yield of 11.1 bushels.

The preliminary season-average price of 40.8 cents per bushel applied to the total production gives a value of \$16,028,000 in comparison with a value of production of \$18,788,000 in

1938 when the season-average price was 33.8 cents per bushel.

### BUCKWHEAT

The production of buckwheat in the United States has been tending downward over a long period of years. A production of 5,739,000 bushels in 1939 was smaller even than the relatively short crop of 6,654,000 bushels in 1938 and was 28 per cent less than the average crop of 7,964,000 bushels. The acreage harvested was 379,000 acres in comparison with 451,000 in 1938 and the average of 508,000 acres. At the preliminary season-average price of 63.5 cents per bushel, the crop had a value of \$3,646,000, which was not much different than the 1938 valuation of \$3,619,000 at a season-average price of 54.4 cents per bushel.

### RICE

The rice crop of 1939 of 52,306,000 bushels was the third largest rice crop produced in the United States. The second largest crop was the 1938 crop of 52,506,000 bushels. The record crop of 53,372,000 bushels was produced in 1937. Average production is 43,387,000 bushels. The growing season for rice was relatively favorable in most of the rice-producing areas and the yield per acre of 50.3 bushels was the second highest average yield on record. Acreage of rice harvested in 1939 was 1,039,000 acres. In 1938, 1,076,000 acres were harvested, and the 10-year average is 913,000 acres. The preliminary season-average price of rice was 77.3 cents per bushel in comparison with 64.2 cents received for the 1938 crop. The value of production on the basis of these prices was \$40,424,000 in 1939 and \$33,714,000 in 1938.

### FEED GRAINS

The combined production in 1939 of the four feed grains—corn, oats, barley, and grain sorghums—expressed in tons to allow for different weights per bushel, totaled 97,289,000 tons, not much different from the 97,685,000 tons produced in 1938. A somewhat larger production of corn and barley in 1939 did not quite offset reductions in the oats and grain sorghum crops. The 1928-37 acreage is 89,468,000 tons

## COTTON AND GRAIN CROPS

and the pre-drought (1923-32) average is 101,000,000 tons. The greater part of the production of these crops is fed on farms, with only a relatively small quantity moving into commercial channels. Farmers' incomes from these crops, therefore, come largely from the livestock to which these crops are fed. Although production in 1939 was not unusually heavy, there was a large carry-over of grain on farms. Livestock numbers, although larger than in 1938, were still relatively low. The 1939 production of feed grains was sufficient for feeding the present livestock at the average pre-drought rate per head without materially reducing the large supply of feed grains carried over from the 1938 production.

### CORN

The 1939 production of corn for all purposes was 2,619,137,000 bushels, slightly larger than the 1938 crop of 2,562,197,000 bushels and 13 per cent larger than the average of 2,309,674,000 bushels. These estimates include the grain equivalent of corn used for silage, forage, hogging off, and pasturing, in addition to the grain corn husked and picked. The relatively large corn crop was produced on a relatively small acreage. The total acreage planted to corn in 1939 was 91,501,000 acres, which was about 2½ per cent less than the 93,689,000 acres planted in 1938 and 11 per cent less than the average of 102,429,000 acres. Corn acreage allotments under the Agricultural Conservation Program, as well as low prices and a large carry-over, largely accounted for the relatively low acreages in both 1938 and 1939. Abandonment of corn acreage in 1939 was somewhat larger than in 1938 due to drought in the Great Plains. The total acreage of corn harvested for all purposes in 1939 was 88,803,000 acres, compared with 92,222,000 acres in 1938 and the 10-year average of 99,798,000 acres. The acreage harvested in 1939 was the smallest acreage in 41 years.

The 1939 growing season was exceptionally favorable for corn, particularly in the heart of the Corn Belt. While conditions at planting time and

immediately thereafter were not particularly favorable for corn, weather conditions and soil moisture conditions through the month of June were very favorable, and the crop made rapid progress during that month. In 1939 a large percentage of the corn acreage was planted with seed of corn hybrids. For the 12 north Central States and Kentucky, as a group, over 43 per cent of the entire acreage was planted to corn hybrids, in comparison with about 30 per cent in 1938. Yields per acre of corn hybrids, as indicated by field tests during recent years, exceed the yields from open-pollinated corn in most cases. The preponderance of the experimental evidence indicates yields from 10 to 15 per cent higher than open-pollinated corn, the advantage appearing to be somewhat more in dry years than in years of ample rainfall. During July growing conditions were excellent in Ohio, Indiana, Illinois, Iowa, and Minnesota, in which states most of the acreage of corn hybrids was located. On the other hand, in the Dakotas, Kansas, and Nebraska the corn crop suffered from dry, hot weather and grasshopper injury. In the northeastern states drought reduced yield prospects, but favorable conditions prevailed over most of the upper south Atlantic states.

In the southeastern and the eastern states of the south Central group, excessive rains lowered yield prospects. In the western states of the south Central group yields were reduced by drought and high temperatures. During September the exceptionally favorable weather conditions continued in Minnesota, Iowa, Illinois, Indiana, and Ohio, and drought conditions that prevailed in some sections were relieved by rains early in August. The advanced stage of growth enabled the corn crop to profit in all except the Great Plains states from the warm days of late August. Maturity was hastened and the inroads of disease, favored by abundant moisture, were checked. September was marked by a prolonged late-season drought and heat of record-breaking severity over much of the nation. A large proportion of the corn crop was

too far advanced toward maturity to be damaged, although late corn was forced too rapidly, resulting in some chaffy corn. Dry weather favored unusually early maturity and also early progress with husking. Frost damage was practically negligible. The 1939 yield per harvested acre of 29.5 bushels was the highest since 1920 and has been equalled or exceeded in only six of the 73 years of record. The 1938 yield per acre was 27.8 bushels and the 10-year average, 23 bushels. Yields in Ohio, Indiana, Illinois, Iowa, and Minnesota, which this year produced 58 per cent of the nation's corn crop, on about one-third of the nation's total corn acreage, ranged from 14 to 18 bushels above average and in each case were the highest on record.

Production of corn harvested for grain in 1939 was 2,360,060,000 bushels compared with 2,303,265,000 bushels in 1938 and the 10-year average of 1,982,886,000 bushels. Corn silage was produced on 4,243,000 acres in 1939 compared with 4,168,000 acres in 1938 and the 10-year average of 5,160,000 acres. The production was 31,195,000 tons of silage in 1939 as compared with 33,529,000 tons in 1938 and the 10-year average of 32,361,000 tons. In 1939, 5,699,000 acres of corn were harvested for forage or grazed off by livestock compared with 5,344,000 acres in 1938 and the 10-year average of 11,795,000 acres. The 10-year average includes the three drought years, 1930, 1934, and 1936, when grain production on many fields was negligible or so small that grazing was the only practical method of harvesting.

A measure of the importance of the role played by the corn crop in the agricultural industry is given by the application of the season-average price at which corn is sold to the total production. On this basis the value of production of the 1939 crop was \$1,464,309,000 in comparison with \$1,290,423,000 for the 1938 crop. The preliminary average price for the 1939 crop was 55.9 cents per bushel as compared with the final season-average price for the 1938 crop of 50.4 cents per bushel.

## OATS

The production of oats in 1939 was 937,215,000 bushels, which was 12 per cent less than the 1938 crop of 1,068,431,000 bushels and 11 per cent less than the average production of 1,049,300,000 bushels. The relatively low production total is due, primarily, to substantial acreage reductions. The acreage seeded was 35,512,000 acres as compared with 36,911,000 acres in 1938. The acreage not harvested for grain was considerably greater than in 1938. Abandonment was heaviest in Indiana, South Dakota, Nebraska, Kansas, Texas, Wyoming, and Colorado as a result of spring drought and insect damage. More than the usual proportion of the seeded acreage was pastured and cut for hay over much of the Corn Belt. The harvested acreage of 33,070,000 acres in 1939 was 7 per cent smaller than the 35,661,000 acres harvested in 1938 and 12 per cent below the average of 37,452,000 acres.

With the exception of the drought year of 1934, the acreage of oats harvested in 1939 was the smallest since 1904. The 1939 oats crop was seeded late, particularly in the Central Corn Belt states, and was injured by frost. During May the crop deteriorated further because of drought and high temperatures in that area. Conditions were generally favorable in the eastern and southeastern states, but below average in most of the western states. The crop showed improvement during June because of favorable rainfall and the lower temperatures, especially in the Dakotas and Minnesota. In Iowa, Illinois, Missouri, and Nebraska oats were too far advanced to respond. The crop was damaged by the chinch bug in Iowa and Missouri and by grasshoppers in Kansas and Nebraska. During July there was further improvement in the crop in Minnesota and the Dakotas and some recovery in Iowa, the eastern Corn Belt, and the Pacific Coast states. There was little damage to the crop from rust in 1939. Weather conditions in the late summer were favorable for filling, and good yields were obtained from the acreage which was left to ripen for grain. The average yield



## COTTON AND GRAIN CROPS

per acre was 28.3 bushels in 1939 as compared with 30 bushels in 1938 and the average of 27.7 bushels.

At the preliminary price for the season, the value of production of the 1939 oats crop would be \$276,891,000 as compared with \$253,335,000 for the 1938 crop. The preliminary season price for 1939 was 29.5 cents per bushel as compared with the season-average price of 23.7 cents per bushel for the 1938 crop.

### BARLEY

The 1939 barley crop was 276,298,000 bushels, about 9 per cent more than the 253,005,000 bushels produced in 1938 and 19 per cent more than the average of 233,021,000 bushels. The acreage of barley sown in 1939 was 14,546,000 acres, which represented a substantial increase from the 11,345,000 acres seeded in 1938. Adverse weather conditions resulted in the loss of 1,946,000 acres, mostly in the Plains states, and only 12,600,000 acres were harvested. In 1938, 10,513,000 acres were harvested and the average acreage harvested was 11,017,000 acres. The effects of dry weather, which resulted in a loss of acreage, were beginning to be felt even on June 1. By July 1 the crop prospects in the Plains states north to Nebraska had become definitely poor, but elsewhere spring-sown barley showed marked improvement. On Aug. 1 the crop in the northern Plains states had lost the gains made to July 1, but further improvement occurred in other northern states. The yield for 1939 was 21.9 bushels per harvested acre in comparison with 24.1 bushels in 1938 and the average yield of 20.7 bushels.

If valued at the season-average price at which barley was sold, the value of production of the 1939 crop would be \$111,716,000 and of the 1938

crop, \$92,605,000. The preliminary season-average price for the 1939 barley crop was 40.4 cents per bushel, and the season-average price for the 1938 crop was 36.6 cents per bushel.

### GRAIN SORGHUMS

The production of grain sorghums for all purposes in 1939 of 83,102,000 bushels was 16 per cent smaller than the 1938 crop of 99,136,000 bushels and 4 per cent below the average production of 86,296,000 bushels. The acreage harvested was 8,055,000 acres, the second largest of record. In 1938, 7,680,000 acres were harvested, and the average acreage harvested was 7,293,000 acres. Grain sorghum crops suffered from drought and high temperatures in the Great Plains states where most of this crop is grown. Because of the unfavorable weather there was more than average abandonment of planted acreage and less than average yield per harvested acre. The drought and high temperatures continued throughout the fall months and provided excellent weather for harvesting the crop. The yield per acre in 1939 was 10.3 bushels in comparison with 12.9 bushels in 1938 and the average of 11.8 bushels. A total of 51,437,000 bushels of grain sorghums was harvested for grain in 1939 in comparison with 61,516,000 bushels in 1938 and the average of 53,007,000 bushels. About 45 per cent of the total grain sorghum acreage was used for forage in 1939 as compared with 44 per cent in 1938.

Although most of the grain sorghum crop is fed to livestock, a measure of its importance is indicated by the value of production of \$48,403,000 in 1939 and \$38,823,000 in 1938. The preliminary season-average price in 1939 was 58.2 cents per bushel, and in 1938 the final season-average price was 39.2 cents per bushel.



## XI. AGRICULTURE AND ALLIED INDUSTRIES

### THE DAIRY INDUSTRY

By L. S. RICHARDSON

BUREAU OF DAIRY INDUSTRY, DEPARTMENT OF AGRICULTURE

#### INCOME AND PRODUCTION OUTLOOK

Farmers as a whole had a better cash income in 1939 than in 1938, but dairy farmers were short about \$93,-000,000 during the first 10 months of 1939, compared with their income in the same months a year before. This was the first year that dairy farmers' income had failed to increase since the low point in 1932. Cash income from dairy products during the first 10 months in 1939 was \$1,150,000,000; in 1938 it was \$1,243,000,000.

The long-time outlook is for increased production of dairy products, although there may be regional and area variations because of the shifting of farm enterprises. The tendency toward an increase in dairy-cow numbers is most marked in the northeastern and Lake State dairy regions, the Corn Belt, and the Cotton Belt. For the next few years, according to the outlook committee of the Department of Agriculture, the northern dairy regions may be expected to show the greatest increase, but over the longer period, the Corn Belt and the Cotton Belt are likely to assume greater importance.

#### COW NUMBERS AND MILK PRODUCTION

The number of milk cows (cows and heifers two years old and over kept for milking purposes on farms) on Jan. 1, 1939 was estimated to be 25,093,000 head, or about 1 per cent greater than the year before. This was the first increase in five years, and it brought to an end the decline that started in 1934. The number continued to increase during 1939, and more than the usual number of heifer calves were saved for replacement purposes.

Milk production in 1939, by cows on farms and in towns and villages, is estimated at 111,000,000,000 pounds, or about 1 per cent higher than in

1938. Production in 1938, at 110,000,-000,000 pounds, was considerably higher than the preceding peak in 1933. It seems probable that, with the increased number of cows, milk production will continue gradually upward as long as feed supplies are ample.

#### MANUFACTURED DAIRY PRODUCTS

Total production of the principal manufactured dairy products during the first 10 months in 1939, in terms of milk equivalent, was estimated at 42,286,937,000 pounds. This was about 1.8 per cent less than in 1938. Evaporated milk was the only product in which there was an increase. Apparent consumption of these products was 8.1 per cent greater than in the same period a year earlier.

Total production of creamery butter in 1939 during the 10-month period, January to October inclusive, was estimated at 1,526,680,000 pounds, or 1 per cent lower than in 1938. Cheese production for the 10-month period in 1939 was 594,125,000 pounds, or 7 per cent less than in the same period the year before. Condensed milk production for the 10-month period in 1939 was 31,698,000, a decrease of 14 per cent from the preceding year. Evaporated milk production in the 10-month period was 1,916,214,000, an increase of 1.5 per cent over the previous year.

#### STORAGE STOCKS

On a milk-equivalent basis, supplies of the principal dairy products in cold storage and in manufacturers' hands on Nov. 1, 1939 amounted to 4,353,-969,000 pounds, or 33 per cent less than a year earlier, and about 5 per cent below the 5-year average (1934-38) for Nov. 1.

Creamery butter in storage Nov. 1, 1939 amounted to 128,147,000 pounds, compared with 195,263,000 pounds a

## THE DAIRY INDUSTRY

year earlier, and the 5-year average of 126,108,000 pounds. Stocks of American Cheese Nov. 1 totalled 94,000,000 pounds compared to 115,000,000 pounds the preceding year, and 104,000,000 pounds for the 5-year average. All other cheese in storage Nov. 1, 1939 amounted to 21,000,000 pounds, compared to 17,000,000 pounds the preceding year, and the 5-year average of 15,000,000 pounds.

Condensed milk in manufacturers' hands (case goods only) totalled 6,040,000 pounds Nov. 1, 1939, compared to 8,500,000 pounds the year before, and 11,000,000 pounds for the 5-year average. Evaporated milk in manufacturers' hands (case goods only) totalled 176,000,000 pounds Nov. 1, 1939, compared to 344,000,000 the year before and 257,000,000 for the 5-year average. Stocks of dry skim milk Nov. 1, 1939 were only 8,000,000 pounds, compared to 42,000,000 the year before, and 31,000,000 for the 5-year average.

### CONSUMPTION OF DAIRY PRODUCTS

Total consumption of all dairy products in 1939 was undoubtedly higher than in 1938, although no exact information is yet available. This is indicated by the decidedly lower stocks on hand near the end of the year, the higher milk production for the year, and the increase of 8 per cent in consumption of principal manufactured products in 1939.

Receipts of milk and cream at the principal markets were higher than the preceding year, and also higher than the peak in 1930, indicating a greater consumption of fluid milk and cream in 1939.

In the first 10 months of 1939, consumption of creamery butter was 9.4 per cent higher than in the same period a year earlier. The distribution of butter for relief accounted for a considerable part of the increase. Consumption of cheese in the first 10 months of 1939 was about 1 per cent less than in the same period a year earlier, but still considerably higher than average. Consumption of cheese was the highest on record in 1938, being about 5 per cent higher than

the preceding peak in 1937. Consumption of evaporated milk was at a new high for 1939, being nearly 13 per cent above the preceding peak the year before; condensed milk consumption was about 1 per cent higher in 1939 than the year previous.

### GOVERNMENT PROGRAMS

The dairy industry continued to benefit from a number of Government programs during the year 1939. The Federal Surplus Commodities Corporation, which is the agency handling Governmental purchases of dairy products for relief distribution, purchased and distributed approximately 50,000,000 pounds of butter, 3,000,000 pounds of evaporated milk, and 20,000,000 pounds of fluid milk. This program had an important effect in stabilizing dairy prices.

The constitutionality of the Agricultural Marketing Agreement Act of 1937 was upheld by the Supreme Court in decisions rendered June 5, 1939, and the number of requests for Federal assistance for stabilizing milk markets increased as a result. The handling of milk was regulated by the Federal Government in 26 markets, and court decisions point to a gradual expansion in milk control and to more general acceptance of milk control as a permanent feature in stabilizing fluid-milk markets.

The program to eradicate bovine tuberculosis resulted in the last of the 48 states being put on a modified accredited basis during the year, and the practical eradication of the disease is now assured. The Bureau of Animal Industry and state officials are now combating Bang's disease on a nation-wide scale, a disease that causes abortion and interferes seriously with herd improvement and milk production. Of the 7,600,000 cattle tested for this disease during the year, 2.9 per cent were slaughtered as reactors.

The soil-conservation program has resulted in increased acreages of pasture grass and other roughage crops to the advantage of dairy farmers who produce good quality roughage. Research work by the Federal Bureau of Dairy Industry was effective in

## XI. AGRICULTURE AND ALLIED INDUSTRIES

showing farmers the importance of feeding good quality roughage to reduce the cost of milk production, and also in providing information for harvesting, curing, and storing roughage to make it of the best quality.

Dairy herd improvement association work conducted by the Federal Bureau of Dairy Industry and the state extension agencies reached a larger number of dairy farmers than ever before. The 1,228 associations

operating during the year were testing and keeping records on 25,949 herds consisting of 625,284 cows. In connection with this program, the Bureau of Dairy Industry has tabulated the breeding performance of approximately 4,000 bulls in the last three years, thereby providing farmers with information that enables them to make a better selection of sires and other breeding stock for improving their herds.

### DISEASES OF PLANTS

By H. A. EDSON

BUREAU OF PLANT INDUSTRY, DEPARTMENT OF AGRICULTURE

#### CLIMATIC INFLUENCES

Generally speaking, climatic conditions in 1939 were not favorable for the development of many of the more common plant diseases, and no country-wide epiphytotics of these maladies of outstanding importance were reported. Dry weather during at least a part of the growing season prevailed in practically every section of the country, and fungous diseases of foliage were thereby minimized. As usual during drought years, root rots due to various fungi were widely reported, particularly in forage and cover crops. Doubtless, the damage done was increased by the dry weather as the reduced and weakened root systems of attacked plants were less able than normal ones to extract from the dry soil the water necessary to keep the tops supplied with adequate transpiration moisture.

#### RED STELE

A root rot of strawberries known as "red stele" and caused by a fungus belonging to the genus *Phytophthora* was found during the year in several states from which it had not previously been reported. It is now known to occur in California, Colorado, Connecticut, Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, New York, Oregon, Virginia, and Wisconsin.

#### POTATO INFECTION

Among the significant plant disease developments of the year was the find-

ing that bacterial wilt and ring rot (*Bacterium sepedonicum*) of Irish potatoes is widely, perhaps universally, distributed throughout the United States. This tuber-borne disease is now known to be established within important seed-producing sections, as well as in areas devoted chiefly to the commercial production of table stock. Fortunately, the evidence indicates that the causal organism does not survive from year to year in the soil, so that growers of certified seed should still be able to produce seed free from infection through proper vigilance in the selection and handling of foundation stock. The disease is not readily detected in the field until late in the season, when infected plants develop a characteristic wilting and dying of the stems, accompanied by a decay of the tubers which first manifests itself in the tissues of the vascular ring, a circumstance which gives rise to the common name "ring rot" given to the disease in Europe, where it was first observed and described.

Another potato disease, or possibly disease complex, of undetermined cause, referred to as "purple top," or "blue stem," and by various other designations, has been under observation in Minnesota, West Virginia, New York, and intervening areas, as well as in states southward and westward. Several theories as to cause have been advanced in the past and abandoned when they failed to accord

## DISEASES OF PLANTS

with observed facts. Present interest centers about observations which seem to relate the disease in some way to aster yellows, a virus disease known to affect many different species of plants and transmitted chiefly by a single species of leafhopper. There is evidence, however, opposed to the hypothesis that the potato disease is caused by this or any other virus, while a causal relationship of the insect itself to the disease is still lacking.

### FRUIT DISEASES

The canker disease of apple trees known as "Northwestern anthracnose" (*Neofabrea malicorticis*) has definitely become established in several localities in Maine and in Massachusetts. This disease has long been known as a potentially serious one in the Northwest if neglected, but subject to control by judicious pruning and timely applications of fungicides. It was first recognized in Maine in 1938 and in Massachusetts in March of 1939, but the older cankers are so located as to show that the original introduction of the causal organism took place at least a few years earlier.

Diseases of peach trees in many respects resembling the yellow-red virus or "X-disease" of the Northeast have been found in Utah, California, and in some northwestern states. The identity of the diseases in the various western localities is not established; neither is identity with the yellow-red virus disease fully determined in any case. However, the symptoms are very similar, and, in Utah at least, chokecherries as well as peaches are attacked, which suggests the possibility that the virus disease reported from Connecticut, Massachusetts, Vermont, and New York, as "X-disease," may be more widely distributed than has heretofore been known. This disease has been definitely reported recently from Illinois and Wisconsin.

### PHLOEM NECROSIS OF ELMS

Phloem necrosis, a virus disease of elms, is causing grave concern in the Ohio River valley. An obscure

disease was reported killing elms in 1918 in the city of Ironton, O., but it was probably present at other points even earlier. In 1927 it was serious in Dayton, and during 1936 and 1937 it killed about a thousand street and park trees in Chillicothe, O. During the past two years it has been increasingly serious in Columbus. At McArthur, O., three trees on the race track grounds became affected in 1938. This year half of the 100 elms there are already dead. This disease, which has been given the name of "phloem necrosis," is now known in Ohio, West Virginia, Kentucky, Tennessee, Indiana, Illinois, and Missouri. It occurs both in planted city trees and in native elms in the wild. Recent studies have shown that it belongs to the class of troubles known as virus diseases and that it can be conveyed by grafting scions from diseased trees on healthy ones.

Virus diseases are commonly transmitted and spread by insects, often by species which are specific for the particular virus in question. As yet no insect vector of phloem necrosis has been identified and the means by which the virus passes from tree to tree is still unknown. The foliage of infected trees becomes yellowish-green, then yellow; the leaves droop and become trough-shaped by an upward curvature of the blades, and finally fall. Other early symptoms are discoloration of the inner bark and cambium, and death of the small fibrous roots. Later, dark brown necrotic flecks appear in the phloem near the cambium, and the larger roots die. A wintergreen odor may be noted in the bark. In typical cases there is a gradual decline over a period of a year or two before the tree dies, but acute cases have been observed in which apparently healthy and vigorous trees suddenly wilt and die within a period of three or four weeks. Informed observers consider this disease a serious menace to American elms, perhaps even more serious than the Dutch elm disease.

The campaign for the control of the Dutch elm disease (*Ceratostomella ulmi*) has been continued, with di-



## XI. AGRICULTURE AND ALLIED INDUSTRIES

minution in the number of diseased trees found, but with some extension of spread here and there into counties adjacent to the principal center of infection.

### OTHER TREE INFECTIONS

Plane trees in the Philadelphia and Baltimore areas have been dying by the hundreds from a disease caused by a fungus belonging to the genus *Ceratostomella*. The disease is very infectious and attacks the native sycamore as well as the London plane, commonly called a sycamore in this country and especially valued because, unlike most trees, it does well in city streets. It has been shown that the disease can be introduced into healthy trees in even very small wounds and is readily spread by pruning tools. Cases have been found recently as far north as Newark, N.J., and south to Washington, D.C. In addition to outbreaks in the intervening territory, cases have been reported at South Charleston, W.Va., Williamsburg, Va., Magnolia, N.C., and Vicksburg, Miss. In at least three of these localities the native American sycamore was the species attacked.

A wilt disease of native persimmon trees, first discovered and identified in Tennessee in 1937, and until recently thought to be restricted to that state, is spreading rapidly over the southeastern states. It is caused by a species of *Cephalosporium* which kills the invaded trees in a few weeks. It is established throughout central

Tennessee and from eastern Mississippi through Alabama, Georgia, and South Carolina, and in Florida to the southern limit of the botanical range of the trees. It has not yet appeared in the valleys of the Mississippi and its tributaries, where the persimmon is most abundant, but it has been found in at least one locality in Texas. The native persimmon is valued as a source of winter food for wild life. Golf club heads and shuttle blocks are made from the wood, and the tree is valued by soil conservationists to anchor the soil and prevent washing.

An aggressive disease of hemlock of undetermined cause is destroying many trees in the north woods of Wisconsin and Minnesota. In some localities the proportion of killed trees is already high and the perpetuation of valuable timber stands is threatened.

Oak stands in the general region of Minnesota, Wisconsin, and Michigan have been developing stag head and gradually dying in large numbers for several years. No satisfactory explanation of the cause has been advanced. A gradually lowering water table during the drought years, severe winter freezing, and various fungi, working independently or in combination, have been suggested as probable causes but the supporting evidence is regarded as inadequate to establish any of these theories. The possibility that a virus may be responsible has also been suggested, but without proof.

## INSECT PESTS AND PLANT QUARANTINES

By LEE A. STRONG

CHIEF, U. S. BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

### MEASURES AGAINST INFESTATION

As a result of extensive experiments to determine the possibility of so treating fruit originating in countries in which fruitflies are known to occur as to insure freedom of the fruit from infestation, studies in Hawaii have resulted in authorizing the

movement from Hawaii to the mainland under permit of papayas sterilized by the vapor heat method. This method of treatment also authorizes the shipment of certain other fruits and vegetables from Hawaii to the mainland under the same conditions.

In the last two or three years the infestation of the pink bollworm in

## INSECT PESTS AND PLANT QUARANTINES

the lower Rio Grande Valley of Texas and across the International Boundary in Mexico has been the cause of considerable concern because of the danger of spread of this pest into and throughout the main Cotton Belt. The efforts to suppress this infestation have attracted considerable attention, the most recent manifestation of which is legislation approved Aug. 9, 1939, authorizing conversations between representatives of the United States and Mexico to consider eradicating or controlling the pink bollworm in both countries by a co-operative program.

### FRUIT INSECTS

Studies of the influence of particle size have indicated that extreme fineness is not necessary for the maximum effectiveness of lead arsenate, calcium arsenate, cryolite, paris green, or phenothiazine in the control of the codling moth. Although large-scale field tests with bait traps to capture codling moths resulted in some cases in the taking of 50 per cent of the moths there was very little difference in favor of baited areas over unbaited areas at harvest time. Investigations, however, indicate that in the baited areas there was a heavy movement of moths from unbaited areas, so more extensive baiting might prove effective.

Phenothiazine continued to give control of the apple maggot in the Hudson River Valley. Thorough application of sulphur materials in the calyx and first-cover sprays resulted in marked reduction in populations of common red spider. Control of pear thrips in Oregon with two applications of two per cent miscible oil emulsion with nicotine sulfate gave a yield of approximately six tons of fruit per acre, as compared with less than one ton for the unsprayed trees.

### PEACH AND OTHER PARASITES

Mass liberation of parasites indicated that early season parasitization can be substantially increased by the liberation of comparatively small numbers of parasites, and the percentage of parasitization of the twig-infesting broods of the oriental fruit

moth is directly correlated with the amount of infested fruit later in the season. Ethylene dichloride emulsion continued to give effective control of the peach borer with little or no injury to peach trees. Because of the convenience of application and safety of this material it is being rapidly adopted by commercial growers. Field and laboratory experiments with solutions of dichloroethyl ether gave almost complete kill of plum curculio in the soil. An all-season treatment with phenothiazine gave a high degree of control of the grape berry moth under conditions of heavy moth concentration on a very light crop of grapes at Sandusky, O.

### DRIED-FRUIT

Further experiments with dried peaches in California indicated that fumigation without cloth protection was not effective. The combination of fumigation and shade cloth, however, eliminated practically all infestation.

### SCALE INSECTS

Investigations in southern California indicated that there is a resistant and nonresistant strain of red scale to hydrocyanic acid gas. These strains, however, are not resistant to methyl bromide. Promising results have been obtained in preliminary experiments in fumigations with mixtures of hydrocyanic acid gas and methyl bromide. Sprays that leave a heavy noninsecticidal residue on citrus in Florida resulted in an increase in the populations of purple scale and Florida red scale.

### JAPANESE BEETLE

The older areas infested by the Japanese beetle increased in size about 1,266 square miles during 1938 and now cover approximately 15,117 square miles. Unusually light infestations occurred in the oldest infested area near Philadelphia and a somewhat lighter infestation in much of New Jersey and eastern Pennsylvania north of the Schuylkill River. Extremely heavy infestations occurred in northern Delaware, northeastern Maryland, southeastern Pennsylvania,

## XI. AGRICULTURE AND ALLIED INDUSTRIES

and in the metropolitan New York area. An investigation on the use of hydrocyanic acid gas as a fumigant for adult Japanese beetles in refrigerator cars was completed and dosage tables worked out for various temperatures. Japanese beetle parasites were liberated at 64 colonies in Maryland, 18 in Connecticut, and 12 in New York. The milky disease now appears to occur rather generally through much of the older heavily infested area. This disease has not been found at points on the outer fringe of this area or in Delaware, Maryland, or New England. In experimental plots first started in 1936 very high disease incidence and almost complete elimination of grubs have occurred. A method of holding milky disease material for subsequent field work has been developed. Diseased larvae are ground and mixed with either talc or precipitated chalk, the mixture then being passed through a 100-mesh sieve. This mixture may be diluted with water and applied as a spray or mixed with soil and broadcast.

During the summer of 1938 trapping work was carried on in 402 cities and towns in 18 states. At the peak of the season approximately 97,800 traps were in operation and 345 trap inspectors were employed. Thirty-three first-record trappings were recorded—nine in Ohio, eight in New York, four in Virginia, three each in Indiana, Maine, and North Carolina, two in Michigan, and one in Iowa. Traps were operated with negative results in Alabama, Arizona, California, Colorado, Florida, Idaho, Kansas, Louisiana, Minnesota, Mississippi, Montana, Nebraska, New Hampshire, New Mexico, North Dakota, Oregon, Tennessee, Texas, Utah, Vermont, Washington, and Wisconsin. A total of 775 acres received soil treatment with lead arsenate. All of the soil-treating projects were sponsored by state, city, or other agencies, in cooperation with the Bureau of Entomology and Plant Quarantine. Fumigation with methyl bromide has been adopted generally throughout the quarantine regulated area for the

treatment of products in carloads to destroy adult Japanese beetles.

### FRUITFLY INVESTIGATIONS

Heavy populations of Mexican fruitfly appearing during the year have been traced to the abnormal production of a second crop of a wild native host abundant in northeastern Mexico. In the Rio Grande Valley of Texas there was an unprecedented crop of fruit and the highest number of fruitfly larval infestations on record, which made sterilization of citrus fruit of prime importance throughout the latter half of the shipping season.

### CONTROL OF PEACH MOSAIC AND PHONY PEACH DISEASES

During the year almost 16,000,000 orchard trees on more than 145,000 properties were inspected. In excess of 147,000 diseased trees were found, of which more than 120,000 were destroyed. There is evidence of substantial reduction in incidence of new cases of these two diseases. Between 9,000,000 and 10,000,000 trees escaped, and abandoned trees were removed to prevent their becoming harboring places for these diseases. Inspections were conducted in 455 counties in 24 southern states from the Atlantic to the Pacific. Four additional counties were found infected for the first time with mosaic and seven with phony peach disease. Five counties infected with peach mosaic in 1937 were cleaned up and no infections found in 1938. Sixty-two counties infected with phony peach disease in 1937 were cleaned up and no infections found in 1938.

### CITRUS CANKER ERADICATION

Government inspection in Louisiana and Texas resulted in the finding of but one recurring infection and one infection on a property in which the disease had not previously been detected in Brazoria County, Texas. One hundred and six infected trees in these areas consisted of small seedlings. During the year 2,000,000 escaped, and abandoned citrus trees were removed and destroyed to eliminate harbors for this disease.



## INSECT PESTS AND PLANT QUARANTINES

### WESTERN PINE BEETLE

Large tracts of forest land on the east slope in California have been surveyed and zoned as to relative degree of hazard, and it is believed that the danger of serious outbreaks will be greatly reduced by selective cutting of high-risk trees. The results of the salvage projects led to the theory that logging highly susceptible but living trees before they could be infested by *Dendroctonus* beetles would be more effective than cutting trees already infested, and would prevent the loss due to blue stain in the resulting timber. Extensive tests of this theory are being carried out in the Lassen National Forest and by private lumber companies.

### BLACK HILLS BEETLE

The Black Hills beetle is the most destructive forest insect in the central Rocky Mountain region. The volume of loss caused by this insect during the last five years is seven times as great as the total fire losses and nearly as great as the total volume of timber cut in Wyoming, Utah, and Colorado. In practically all areas where control work has been conducted the heavy epidemics have been reduced to an endemic condition.

### EUROPEAN SPRUCE SAWFLY

Four areas of heavy infestation were found in a survey conducted during 1938—two in southern New Hampshire, one in central Vermont, and one in southern Vermont. Colonies of a European parasite of this insect were liberated at every locality in New Hampshire, Vermont, and New York, wherever sufficient larvae were found to make possible successful establishments of the parasite.

### GYPSY MOTH

The severe hurricane in the fall of 1938 resulted in spreading gypsy moth eggs to areas hitherto uninfested by this insect. The use of the autogiro in scouting and applying insecticides in gypsy moth work is still in the experimental stages but is giving promising results. The severest and most extensive defoliation that

has ever occurred in the area between the barrier zone and the Connecticut River in Vermont, Massachusetts, and Connecticut developed in the summer of 1938.

### DUTCH ELM DISEASE

Discovery of considerable numbers of infected trees in several localized sections in New Jersey and Connecticut accounts for the increased number of Dutch elm diseased trees discovered during the year. In 1938, 15,909 diseased trees were found, as compared with 6,500 in 1937. Elms infected with the disease were found in Pennsylvania for the first time during the year, and sporadic infections were discovered in additional towns in Dutchess, Orange, and Ulster Counties, New York, outside of the previously known infected zone. Surveys in states remote from the main infected area failed to disclose a single new infection center. There were also no recurrences of the disease at Baltimore and Cumberland, Md., Norfolk and Portsmouth, Va., or Cincinnati and Cleveland, O. Diseased trees found at outlying points were limited to 19 scattered cases in the Indianapolis, Ind. area, four cases in the Athens, O. area, and a single infection at Wiley Ford, W.Va. Five aerial scouting units were available for surveys in difficult scouting areas during the year.

### WHITE-PINE BLISTER RUST CONTROL

During the calendar year 1938 more than 98,000,000 currant and gooseberry plants were destroyed in white pine forest areas in the United States, totaling 2,234,000 acres. During the calendar year blister rust was found for the first time in 70 counties—six in the Southern Appalachian States, 60 in the North Central States, two in Montana, and two in California.

### WHITE-FRINGED BEETLE

Studies of the white-fringed beetle during the year definitely proved that this insect has but one generation per year. The rate of reproduction is governed by the kind of food plant. The peanut is the most favored food



## XI. AGRICULTURE AND ALLIED INDUSTRIES

plant. The number of eggs laid by this insect when feeding on peanuts is over 1,500. Calcium arsenate dust on host plants is an effective means of reducing beetle populations. Oil base emulsions as a herbicide are being used successfully to destroy vegetation along railroad rights-of-way, roadsides, abandoned fields, and waste areas, and clean cultivation for an efficient control in crop areas. Field observations indicate that the use of these methods resulted in a drastic reduction in beetle population. On Jan. 1, 1939, a Federal domestic plant quarantine was promulgated to prevent the spread of this pest. State quarantines supplement this Federal quarantine on intrastate movements of host material. No infestations were found in any states in which the beetle had not previously been known to exist. The total infested area in 1938 amounted to approximately 50,000 acres.

### GRASSHOPPERS

Extensive experiments with substitutes for wheat bran or sawdust in grasshopper bait, cottonseed hulls, citrus meal, and chopped alfalfa have given promising results. The late part of the summer of 1938 was marked by unprecedented flights of the lesser migratory grasshopper from western South Dakota into western North Dakota and eastern Montana. Only the most rapid and vigorous action prevented a major disaster to crops in 1939. Grasshopper control was carried on in cooperation with 24 Western States. The infestation was heavy, affecting all states west of the Mississippi River but one, and also Illinois, Michigan, and Wisconsin. The campaign resulted in the saving of over \$176,000,000 worth of crops. Fall surveys indicated heavy concentration of eggs in the Great Plains and Rocky Mountain States, from Texas to Minnesota. By the end of the fiscal year more than 235,000 tons of bait had been made available to the states.

### MORMON CRICKETS

A bait containing sodium fluosilicate as a poisoning agent was devel-

oped in 1938. Field tests in the spring of 1939 with this material resulted in the destruction of from 78 to 98 per cent of the crickets. In the states from North Dakota to Nebraska and Colorado, and westward to Nevada, Oregon, and Washington, Mormon cricket control has been conducted under funds allotted to the Bureau from appropriations to the Department for the control of emergency outbreaks of insect pests and plant diseases. The work has been carried on with the cooperation of the states involved. In the fall of 1937 more than 18,000,000 acres were found to be infested, about one-third of the entire area being moderately or heavily infested. The control campaign was based fundamentally on crop protection. Sodium arsenite dust, metal barriers, and oil-and-water barriers were the most effective methods of control. A bait consisting of sawdust, bran, and sodium fluosilicate gave promising results. A total of 230,000 acres was dusted and 1,100,000 pounds of dust was applied. Over 10,000 acres were baited, metal barriers were set up for more than 300 miles, and 75,000 gallons of oil was used on 425 miles of streams and ditches.

### EUROPEAN CORN BORER

A distinct general increase in population of the European corn borer in the region extending from the Great Lakes eastward to Massachusetts and central Connecticut occurred in 1938. As a result of breeding strains of corn resistant to the corn borer, 93 strains showed apparent resistance. Breeding results with field corn indicated that of 235 strains tested 32 were resistant.

### VETCH BRUCHID

During the year the vetch bruchid was found to be infesting vetch seed in northwestern Oregon. Heretofore this insect has been known only in the Atlantic coastal states.

### SUGARCANE BORER

Sugarcane borer caused a loss of \$4,700,000 to sugarcane in 1938. Recent experimental work in the control

## INSECT PESTS AND PLANT QUARANTINES

of this insect by sprays containing cryolite gave approximately 90 per cent control.

### STORED-GRAIN INSECTS

A study of the condition of farm-stored grain was made in 1938, resulting in the publication of *Farmers' Bulletin No. 1181*, entitled, "Control of Insects Attacking Grain in Farm Storage." Chloropicrin gas, which is coming into general use in the fumigation of grain, resulted in serious injury to germination when grain is exposed to a dosage of six pounds of chloropicrin to 1,000 bushels of grain for six hours at 95° F. At 50° grain can be safely fumigated at dosages of from one to six pounds to 1,000 bushels of grain for periods not exceeding 12 hours. Methyl bromide shows considerable promise as a cheap and efficient fumigant for flour mills and stored rice. It has been ascertained that methyl bromide at a dosage of 4.85 pounds to 1,000 pounds of rice gave a complete kill of insects in 42 hours at 87° F.

### BLACK STEM RUST CONTROL

During the year barberry bushes, which act as alternate host for this disease, were eradicated in 221 counties in 17 states. This resulted in the removal of 47,445,220 bushes. In Montana, Wyoming, North Dakota, South Dakota, and parts of Colorado and Nebraska the initial work has been completed. In Iowa and the states east of the Mississippi River the program is not so far advanced. Stem rust became epidemic over extensive areas from Texas to the Canadian border during 1938; however, losses to spring wheat were not nearly so severe as in 1935 or 1937. Observations extended into Mexico in 1938.

### TOMATO FRUITWORM

Experiments during the year demonstrated that cryolite dust mixture containing 70 parts by weight of cryolite and 30 parts of talc gave the best yield of uninjured fruit. No insecticidal material containing substances poisonous to human beings should be applied within three weeks of first picking.

### PEA WEEVIL

In the Pacific Northwest this insect is being successfully controlled by growers, based on research with dust mixtures containing rotenone. In 1937, 47 tons of this material was used. In 1938, 211 tons was used, indicating a decided increase in the use of this material. Large-unit machines are now being used, the largest dusting an 80-foot swath.

### BOLL WEEVIL

Although the damage caused by the boll weevil in 1938 was almost double that of 1937, it was about two per cent below the average for the last 25 years. On experimental plats standard dusting procedure resulted in an average gain of 188 pounds of seed cotton per year.

### COTTON FLEA HOPPER

Dusting for the control of the cotton flea hopper on experimental acreages resulted in a net proceed of \$9.74 per acre with a maximum proceed of \$25.11 per acre. The most effective insecticide was one part calcium arsenate and two parts sulfur.

### PINK BOLLWORM CONTROL

The outstanding developments in the pink bollworm situation for the 1938 crop season were the discovery of a light pink bollworm infestation in the Coastal Bend area of Texas; the finding of reinfestation in the Salt River Valley of Arizona following several years of freedom from infestation; and the disclosure of a heavier infestation in the lower Rio Grande Valley of Texas and Mexico. During 1938 practically all of the area in which the eradication of wild cotton is being attempted in southern Florida was worked over. This amounted to over 34,000 acres. A total of 46,000 plants with mature bolls were destroyed and nearly 1,500,000 seeding plants were removed.

### BEEKEEPING

During the season of 1938 the queen bees being bred for resistance to American foulbrood showed marked increase in resistance over those bred

## XI. AGRICULTURE AND ALLIED INDUSTRIES

in 1937. The several states producing disease-resistant queens are distributing these bees to the beekeepers in their territory.

### SCREW WORMS

A new insecticide, diphenylamine, has been found to be the most practical, in general, for the control of screwworm on domestic animals. Applications of this material to wounds every third day will prevent them from becoming infested.

### HORN FLIES

An automatically operated fly trap operated under pasture conditions was so effective that animals having access to this trap seldom have more than 150 flies per head, while those in nontrapped pastures have a normal

fly population of between 3,500 and 4,000 flies per animal.

### CATTLE GRUBS

A practical method of treating range cattle for cattle grubs has been developed. It consists of applying to the backs of infested animals a wash composed of 12 ounces of derris or cube powder, four ounces of soap, and one gallon of water.

### TRANSIT INSPECTION

During the year inspectors stationed at parcel post, express, and freight terminal points in 16 cities inspected 1,163,897 shipments for compliance with regulations of Federal domestic plant quarantines. During the same period over 930,000 freight waybills were examined to determine certification status of shipments.

## FISHERIES

BY CHARLES E. JACKSON

ACTING COMMISSIONER, BUREAU OF FISHERIES, DEPARTMENT OF THE INTERIOR

### WORLD COMMERCIAL FISHERIES

The world's annual catch of fishery commodities is about 35,000,000,000 pounds, valued at \$761,000,000. The United States, including Alaska, ranks first in the value of its fishery products, with an annual catch worth approximately \$100,000,000. Only Japan, with a catch of 8,107,000,000 pounds, exceeds the United States in the volume of yearly production. Other countries having a catch of over 1,000,000,000 pounds annually are Canada, China, Chosen, Germany, Norway, the Union of Soviet Socialist Republics, and England including Scotland, Northern Ireland, and Wales.

### UNITED STATES FISHERIES

During 1937, the most recent year for which complete figures are available, the United States catch of fish and shellfish amounted to 4,353,000,000 pounds, which brought the 130,000 fishermen of the country an income of \$100,845,000. While slightly less than the preceding year's catch,

this figure represents a substantial increase over annual catches of the previous 10-year period, which averaged about 3,400,000,000 pounds.

The Atlantic Coast exclusive of Florida produced 1,370,124,000 pounds of fishery products in 1937, of which approximately half came from the New England section. Fisheries of the Gulf Coast, including the total Florida catch, produced 404,388,000 pounds of fish and shellfish. Pacific Coast fishery landings, amounting to 1,576,877,000 pounds, were composed principally of the 1,139,505,000-pound catch of sardines or pilchards. The Alaska catch was 834,819,000 pounds, of which approximately 500,000,000 pounds was salmon. Freshwater fisheries of the Great Lakes and the Mississippi River produced 166,241,000 pounds.

Approximately two-thirds of the total catch is utilized as food, one-third as meals, oils, and other products used in arts and industries. Manufactured fishery products, of which approximately 60 per cent were canned, were valued at \$185,292,159

## FISHERIES

in 1937. About 168,000,000 pounds of fishery products valued at \$14,500,000 were frozen.

### AMERICAN MARKETING

As a means of developing more orderly and economic marketing of fishery products, the Bureau of Fisheries of the Department of the Interior has established field offices for the daily collection and dissemination of fishery market news in New York, Boston, Chicago, Seattle, and Jacksonville.

Between 40 and 50 fishermen's cooperative marketing associations now in operation on both coasts and on the Great Lakes are directly or indirectly associated with the marketing of fishery products amounting to approximately  $\frac{1}{5}$  of the volume and  $\frac{1}{10}$  of the value of the United States catch. Marketing associations range from bargaining agencies which function only in price negotiations to organizations that actually market the catch of member fishermen. One cooperative operates a plant for its own refrigeration and storage of fish.

### NEW FISHERIES

Recent developments indicate that new and important fisheries may be exploited in the future. The rosefish of New England, a few years ago virtually unknown in fish markets, is now being landed in annual quantities of 65,000,000 pounds and sold in filleted form, especially in the Middle West where it is known as "ocean perch." Less spectacular but important developments of the whiting and pollock fisheries have occurred, and new fishing areas for tuna in the Pacific Northwest have been found. Shrimp grounds have recently been discovered in previously unfished waters in the Gulf of Mexico, and a new shrimp fishery is being exploited off the Maine coast.

### FISHERY SHIPPING

Playing an important part in developing many of the world's fisheries are the factory ships ranging in size from less than 100 net tons to highly mechanized ships of 43,000 tons displacement. Absent from port as

much as six months and cruising up to 12,000 miles, these floating factories perform nearly every type of fish processing, including icing, freezing, salting, canning, and the manufacture of meal and oil.

### RECREATIONAL FISHERIES

The great recreational and economic importance of angling may be seen from the fact that during the 1937-38 season 7,436,177 fishing licenses were issued to sport fishermen, the states deriving therefrom a revenue of \$10,221,787.72. To this total must be added the large and constantly increasing number of anglers in salt water, where no license is required except in California, as well as others who qualify for exemption from the freshwater license requirements. The total number of persons fishing without a license may be nearly as large as the number of licensed fishermen.

This army of anglers imposes a heavy drain on supplies of inland fishes which are also menaced by continual reduction of habitable waters in the face of encroaching industry and agriculture. In many areas fishing is maintained only by the most intensive stocking and by stringent legal regulation of bag limits. Nevertheless, demand continues to exceed supply.

### CONSERVATION OF THE FISHERIES

Many of the uncertainties and economic hazards of the fishing industry are traceable to the great annual variations in the supply of marine fishes. Stabilization of yield, an important goal of modern fishery science, is sought by elaborate studies of the biology of fish populations under the intensive exploitation characteristic of present day fishing. Studies of this type are now being prosecuted by the Bureau of Fisheries for such important commercial species as haddock, mackerel, and flounders in New England, shad and striped bass of the Atlantic Coast, common shrimp of the South Atlantic and Gulf Coasts, the California pilchard, and Pacific salmon and herring.



## XI. AGRICULTURE AND ALLIED INDUSTRIES

An excellent example of the practical application of science is afforded by the haddock which, during the past decade, came to support the first-ranking New England fishery under the stimulus of expanding markets for filleted fish. Between 1927 and 1931, intensive fishing reduced the availability of haddock 75 per cent on the principal fishing grounds. Scientific studies by the Bureau of Fisheries have now led to the discovery of the level of abundance at which production and growth of young haddock are at a maximum. It is believed that stabilization of the fishery at this level will insure sustained yields while safeguarding future supplies.

Control over supplies of fresh water fishes is more easily exercised, although many difficulties must be overcome. In an effort to restore suitable habitats for fish and to increase the natural productivity of streams and lakes, the Bureau of Fisheries is making an intensive study of industrial pollution in relation to aquatic life. It is also conducting a wide variety of scientific studies designed to increase the returns from plants of hatchery-reared fish. The Bureau operates 101 major fish hatcheries which produced during the fiscal year 1939 a total of 8,094,000,000 fish and eggs of 46 different species, of which the great bulk were commercial, both fresh water and marine. Among the fresh water game species most extensively propagated were brook, Loch Leven, rainbow, and black-spotted trout, largemouth and smallmouth black bass, rock bass, sunfish, crappie, and catfish.

Lack of an adequate supply of first quality oysters is the principal problem of the oyster industry. While oyster farming is highly developed in New England and the Middle Atlantic States, the South depends largely on harvesting from public or state-owned beds, where it is difficult to control the size and quality of the product. In order to promote oyster culture in the South, the Bureau of Fisheries is establishing experimental oyster farms in the vicinity of its laboratories in North and South

Carolina and Florida. In addition, a new laboratory for oyster cultural investigations is being constructed at Milford, Conn.

### REGULATION

Within the territorial waters of the United States the individual states retain complete control over the fisheries. In the Territory of Alaska, however, the Federal Government has jurisdiction over the fisheries, the most important of which are salmon and herring. On the basis of investigations conducted by the Bureau of Fisheries, the Secretary of the Interior prescribes regulations controlling the areas where fishing is permitted and the length of the fishing season in each area.

The Bureau of Fisheries also administers the fur seal herd of the Pribilof Islands, from which come about 80 per cent of the world's seal skins. Under the Bureau's management, the Pribilof Islands fur-seal herd has grown from 130,000 animals in 1911 to about 2,020,000 in 1939. The herd yielded a total of 60,473 skins in 1939, a 50-year record. Only the skins of three-year-old surplus males are taken.

### LEGISLATIVE DEVELOPMENTS

The most valuable commercial species of Great Lakes fish continue in a state of critical depletion, owing largely to the fact that widely differing regulatory laws of the several bordering states and the Province of Ontario affect the same bodies of fish in the same waters. Under the auspices of the Council of State Governments, steps have been taken looking toward the establishment of an international treaty with Canada, similar in general aspects to the migratory bird treaty. Pending adoption of such a treaty, formation of an interstate compact for unified control of United States fisheries on the Great Lakes has been authorized by Congress. An Atlantic Coast compact for the better solution of migratory fish conservation problems is also under consideration.

Progress toward the adoption of anti-pollution legislation was made when the Barkley Bill, which pro-

## FORESTRY

vides for the establishment of a Division of Stream Pollution Control in the U. S. Public Health Service was passed by the Senate on May 1, 1939. The bill provides for technical and financial assistance to the states in the reduction or elimination of

stream-pollution hazards. Favorably reported with minor amendments by the House Rivers and Harbors Committee on May 10, 1939, the Barkley Bill will doubtless receive early consideration by the House of Representatives.

## FORESTRY

BY CHARLES E. RANDALL

UNITED STATES FOREST SERVICE

### GENERAL

Approximately 462,000,000 acres of forest lands in the United States are classed as actually or potentially productive of commercially valuable timber. Of this area, only about 215,000,000 acres now bear trees of saw timber sizes. About 174,000,000 acres are understocked, with trees of less than saw timber sizes, and many diseased, otherwise defective, or weed trees among them. And an area of about 73,000,000 acres is producing virtually nothing at all. Present indications are that the drain on remaining forests due to commercial cropping, fire, disease, and insects is considerably in excess of forest growth.

### JOINT CONGRESSIONAL COMMITTEE ON FORESTRY

Of special significance in the national program to secure additional protection, improved cropping, and more efficient utilization of the nation's forests during 1939 was the functioning of the Joint Congressional Committee on Forestry. This Committee was established by Congress in June, 1938.

The Committee on Forestry seeks facts and opinions on how "to make forest lands and resources contribute their full share to the social and economic structures of the country and to the security and stability of all our people." It was established as the result of a special message to Congress from the President recommending that the Congress make a study of the Nation's forest problem with particular regard to:

1. The adequacy and effectiveness of present activities in protecting public and private forest lands from fire, insects, and diseases, and of co-operative efforts between the Federal Government and the states.

2. Other measures, Federal and state, which may be necessary and advisable to insure that timber cropping on privately owned forest lands may be conducted as continuous operations, with the productivity of the lands built up against future requirements.

3. The need for extension of Federal, state, and community ownership of forest lands, and of planned management of them.

4. The need for such public regulatory controls as will adequately protect private as well as the broad public interests in all forest lands.

5. Methods and possibilities of employment in forestry work on private and public forest lands, and possibilities of liquidating such public expenditures as are or may be involved.

The Committee has held three hearings at Sun Valley, Idaho, Jacksonville, Fla., and Washington, D.C. Committee work was considerably impeded by war in Europe and by the special session of Congress for neutrality legislation, but plans at this writing were for hearings in Syracuse, N.Y., Mobile, Ala., Madison, Wis., Portland, Ore., and San Francisco during the winter months. The final hearing of the Committee was scheduled for Washington soon after Congress convenes in 1940. Under a continuing resolution, the Committee

## XI. AGRICULTURE AND ALLIED INDUSTRIES

is to file its report in 1940, with recommendations for such legislation as is deemed necessary to meet forestry needs.

The chairman of the Joint Congressional Committee on Forestry is Senator Bankhead of Alabama. Other members are Senators McNary of Oregon, Smith of South Carolina, Bulow of South Dakota, and Clark of Idaho, and Representatives Fulmer of South Carolina, Doxey of Mississippi, Pierce of Oregon, Englebright of California, and Reed of New York.

### FOREST INDUSTRIES CONFERENCE

Early in 1939 a new departure in the relation of industry and government came into being in the form of the Forest Industries Conference. Composed of forestry and other officials of several government agencies and representatives of industry, the Forest Industries Conference proposes to correlate assistance in sound economic development of forest products industries. One objective is to eliminate duplication of effort on the part of government agencies concerned with forestry and its related industries. Another is to furnish wood-using industries an opportunity to present their viewpoints to Federal agencies, both as they involve the development of industry and its relation to forestry and as they involve governmental action in related fields. A committee directing the activities of the Conference includes representatives of the National Lumber Manufacturers Association, American Pulpwood Association, American Paper and Pulp Association, Federal Departments of Agriculture, Interior, and Commerce, and American Farm Bureau Federation.

### NEW ENGLAND FOREST EMERGENCY WORK

When struck by the terrific hurricane of September, 1938, New England forests over wide areas were reduced to a tangled mass of highly inflammable wreckage. The storm laid low an estimated total of 3,000,000,000 feet of merchantable timber which to the people of the affected area

was a stunning economic tragedy. In reply to the appeal of New Englanders for assistance in meeting the double emergency of increased forest-fire hazard and timber destruction, the President instructed Federal executive departments and agencies to give every possible assistance, and designated F. A. Silcox, chief of the U. S. Forest Service, to coordinate all cleanup and salvage work.

Staffed by experienced forest officers recruited from all parts of the country, the New England Forest Emergency Organization was set up by the Forest Service almost overnight. Decentralized organizations were established in six states and hazard reduction work went forward throughout the remainder of 1938 and in 1939 with the help of town committees, state authorities, the W.P.A., and the C.C.C. The Weather Bureau cooperated by establishing 44 emergency forecasting stations which issued and broadcast fire weather warnings daily.

An appropriation of \$500,000 was made by Congress for fire hazard reduction on the White Mountain National Forest in New Hampshire and Maine, and an appropriation of \$5,000,000, to be matched dollar for dollar by state or political sub-divisions using the money, was made for forest fire hazard reduction work outside the national forests.

In June 1939, 14,190 C.C.C. and W.P.A. laborers were engaged in hazard reduction work outside national forests. As of June 30 more than 2,500,000 man-days had been done on this work. But according to estimates of the Forest Emergency Organization, reduction of fire hazards to normal will require at least two more years of intensive work.

Timber salvage, coordinated with hazard reduction, is cleared through the Northeastern Timber Salvage Administration, with the Chief of the Forest Service as administrator, set up within the framework of the Federal Surplus Commodities Corporation. The Administration does no logging but makes payments to owners for salvage material delivered. Payments are made from Federal



## FORESTRY

funds available as loans from the Reconstruction Finance Corporation through its subsidiary, the Disaster Loan Corporation.

By Oct. 15, 1939, 265 wet and 532 dry log delivery sites had been established. Purchase agreements covered 1,654,259,000 board feet in logs, plus 149,038 cords of pulpwood. Deliveries to Oct. 15 totaled 588,902,000 board feet in logs and 17,813 cords of pulpwood. Payments to owners, covering most of these deliveries, totaled \$6,836,025. Contracts had also been signed with 168 privately owned sawmills of which 119 were in operation; and 238,062,000 feet of lumber had been sawed, stacked for drying and invoiced.

A fortunate circumstance was the fact that the 1938-39 white pine seed crop in New England was particularly good. Given adequate protection, new forests from this seed can be expected to reclothe much of the damaged area within a relatively short time.

### FOREST PROTECTION

Of the 659,202,090 acres of Federal, state and private forest lands on which fire protection is essential in the United States, 191,860,240 acres of Federal lands were protected in the last year by the Forest Service and other Federal agencies, and 308,458,000 acres of state and private lands were under cooperative or private protection. There remained 158,883,850 acres unprotected.

During the past year there was one forest fire for every two and a quarter minutes. The total area burned over was 33,815,000 acres, with damage estimated at \$36,888,460, not including much larger losses represented in watershed, scenic and recreation values, unemployment, and intangible values which can not be measured in dollars.

Particularly significant is the fact that 63 per cent of the total number of fires, 91 per cent of the total area burned, and 71 per cent of the direct damage, occurred on the 158,883,850 acres of forest lands which still lack organized protection.

Expenditures for fire protection on

state and private forest lands amounted to \$9,187,000 in the last year. Of this, \$1,736,000 was contributed by the Federal Government under provisions of the Clarke-McNary Act and the balance by states, counties, municipalities and private owners. To extend and intensify forest protection on all areas needing it would require approximately \$18,500,000 annually, according to estimates of state foresters.

### FOREST PLANTING

Forest planting in the United States during the year totaled 504,616 acres. Forest Service plantings in the national forests covered 155,164 acres; plantings by the Soil Conservation Service covered 32,105 acres; the Tennessee Valley Authority planted 18,737 acres; plantings on state forests and other state lands by state agencies covered 64,783 acres; counties, towns and cities planted 14,841 acres of municipal forest lands; schools and colleges put in 1,090 acres of trees on public and private lands; through the U. S. Forest Service, state foresters, the Soil Conservation Service, and the Tennessee Valley Authority, farm forest plantings by farmers covered 138,014 acres; field windbreak plantings on farms by the Forest Service under the Prairie States Forestry Project covered 56,858 acres; other small land owners planted 10,574 acres; various organizations planted 2,400 acres; pulp and paper companies planted 7,623 acres; lumber companies planted 4,176 acres; mining companies planted 2,819 acres; water and power companies planted 3,467 acres; and various other companies 1,943 acres.

### NATIONAL FORESTS

By means of purchase, transfer and donation of lands within national forest boundaries, various acreages are added to the national forests from time to time. Additions and eliminations by means of boundary adjustments also cause changes in their size and status. National forests in 40 states, Alaska and Puerto Rico now include slightly more than 176,000,000 acres.



## XI. AGRICULTURE AND ALLIED INDUSTRIES

During the year four new national forests were established by Presidential proclamation. All were from lands previously acquired by Federal purchase for national forest purposes. They were the Manistee National Forest in Michigan, the Shawnee National Forest in Illinois, and the Clark and Mark Twain National Forests in Missouri.

The Lemhi National Forest in

Idaho was abolished, with the lands being transferred to the Challis and Salmon National Forests. Through additions of public lands, the Deschutes National Forest in Oregon was enlarged by 411,300 acres and the Cache National Forest in Utah by 392,686 acres. Executive Order also transferred 505,600 acres from the Tongass National Forest in Alaska to the Glacier Bay National Monument.

### PERIODICAL PUBLICATIONS

#### *Agricultural Education*

1714 Locust Street, Des Moines, Ia.

#### *Agricultural Engineering*

American Society of Agricultural Engineering, St. Joseph, Mich.

#### *American Agriculturist*

Ithaca, N.Y.

#### *American Forests*

American Forestry Association, Washington, D.C.

#### *American Fruit Grower*

1370 Ontario Street, Cleveland, O.

#### *Country Gentleman*

Curtis Publishing Company, Philadelphia.

#### *Cotton Trade Journal*

810 Union Street, New Orleans, La.

#### *Dairy World*

608 South Dearborn Street, Chicago.

#### *Farm Journal*

Wilmer Atkinson Company, Philadelphia.

#### *Fishing Gazette*

461 Eighth Ave., New York City.

#### *Forestry News Digest*

American Tree Association, Washington, D.C.

#### *Hoard's Dairyman*

Fort Atkinson, Wis.

#### *Journal of Agricultural Research*

Superintendent of Documents, Washington, D.C.

#### *Journal of the American Society of Agronomy*

Geneva, N.Y.

#### *Journal of Dairy Science*

Mount Royal and Guilford Aves., Baltimore, Md.

#### *Journal of Farm Economics*

American Farm Economic Association, Menasha, Mich.

#### *Journal of Forestry*

Society of American Foresters, Washington, D.C.

#### *Pacific Fisherman*

71 Columbia Street, Seattle, Wash.

#### *Produce Guide*

100 Grand Street, New York City.

#### *Successful Farming*

Meredith Publishing Company, Des Moines, Ia.

#### *Wallace's Farmer and Iowa Homestead*

1912 Grand Ave., Des Moines, Ia.

### COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN ASSN. OF NURSERYMEN,  
P.O. Box 355, Louisiana, Mo.

AMERICAN COUNTRY LIFE ASSN., 297  
Fourth Ave., New York City.

AMERICAN FARM BUREAU FEDERATION,  
58 E. Washington Street, Chicago,  
Ill.

AMERICAN FORESTRY ASSN., 919 Seven-  
teenth St., N.W., Washington, D.C.

AMERICAN NATIONAL LIVESTOCK ASSN.,  
515 Cooper Bldg., Denver, Col.

AMERICAN ORNITHOLOGISTS' UNION,  
1939 Biltmore St., N.W., Washing-  
ton, D.C.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

- AMERICAN PHYTOPATHOLOGICAL SOCIETY, Bureau of Plant Industry, Washington, D.C.
- AMERICAN POULTRY ASSN., Fort Wayne, Ind.
- AMERICAN SOCIETY OF AGRONOMY, Iowa State College, Ames, Ia.
- AMERICAN SOCIETY OF ANIMAL PRODUCTION, University of Nebraska, Lincoln, Neb.
- AMERICAN SOCIETY OF EQUITY, 311 Daily Star Bldg., Minneapolis, Minn.
- AMERICAN SOCIETY FOR HORTICULTURAL SCIENCE, Lock Box 299, Geneva, N.Y.
- AMERICAN SOCIETY OF MAMMALOGISTS, University of Michigan, Ann Arbor, Mich.
- AMERICAN VETERINARY MEDICAL ASSN., 221 N. La Salle Street, Chicago, Ill.
- ASSOCIATION OF LAND-GRANT COLLEGES AND UNIVERSITIES, Newark, Del.
- BOYCE-THOMPSON INSTITUTE FOR PLANT RESEARCH INC., 1086 N. Broadway, Yonkers, N.Y.
- DAIRYMEN'S LEAGUE CO-OPERATIVE ASSOCIATION, INC., 11 W. 42nd St., New York City.
- FARM WOMEN'S NATIONAL CONGRESS, Clarksville, Ia.
- INSTITUTE OF AMERICAN MEAT PACKERS, 509 S. Wabash Ave., Chicago, Ill.
- INTERNATIONAL FARM CONGRESS OF AMERICA, Continental Bldg., Kansas City, Mo.
- IZAACK WALTON LEAGUE OF AMERICA, 222 N. Bank Drive., Chicago, Ill.
- JEWISH AGRICULTURE SOCIETY, INC., 301 E. 14th St., New York City.
- MIDDLE ATLANTIC FISHERIES ASSN., 203 Front St., New York City.
- NATIONAL ASSN. OF AUDUBON SOCIETIES, 1775 Broadway, New York City.
- NATIONAL BOARD OF FARM ORGANIZATIONS, 1731 I St., N.W., Washington, D.C.
- NATIONAL DAIRY COUNCIL, 111 N. Canal St., Chicago, Ill.
- NATIONAL EDUCATIONAL AND CO-OPERATIVE FARMERS' UNION OF AMERICA, 1731 I St., N.W., Washington, D.C.
- NATIONAL FERTILIZER ASSN., 676 Investment Bldg., Washington, D.C.
- NATIONAL GRANGE, 970 College Ave., Columbus, O.
- NATIONAL HIGHWAYS ASSOCIATION, Bass River, Cape Cod, Mass.
- NATIONAL LIVESTOCK AND MEAT BOARD, 407 S. Dearborn St., Chicago, Ill.
- NATIONAL POULTRY COUNCIL, Davisville, R.I.
- PEOPLE'S LOBBY, INC., 817 Fourteenth St., N.W., Washington, D.C.
- SOCIETY OF AMERICAN FLORISTS AND ORNAMENTAL HORTICULTURISTS, Stevens Hotel, Chicago, Ill.
- SOCIETY OF AMERICAN FORESTERS, 825 Hill Bldg., Washington, D.C.
- UNITED STATES LIVESTOCK SANITARY ASSN., 33 Livestock Exchange Bldg., Wichita, Kan.
- VEGETABLE GROWERS' ASSN., OF AMERICA, c.o. F. L. Allen Co., Philadelphia, Pa.
- WOMEN'S NATIONAL FARM AND GARDEN ASSN., INC., Amber, Pa.

## DIVISION XII

### MINERAL INDUSTRIES

#### GOLD AND SILVER

BY ARTHUR NOTMAN

MINING ENGINEER AND GEOLOGIST, NEW YORK

#### GOLD

The United States has done better in maintaining its relative importance in the field of the precious metals both from the standpoint of production and stocks. By the end of 1939 the total gold held by the United States Government had exceeded \$17,500,000,000 or 500,000,000 ounces, with the total rising rapidly as a result of the war. The increase for the year was about \$3,500,000,000 or 100,000,000 ounces or about 2½ years production at the 1939 rate of approximately 40,000,000 ounces, including an estimate for Russia of 6,000,000 ounces. This rapid increase brings to the fore the importance of reestablishing a free gold market in this country, with free coinage of the metal, and convertibility of paper money. It is to be hoped that 1940 will see a return to sound money.

#### GOLD PRODUCTION

	World Production (ex. Russia)	United States	Per Cent of World
1929	18,488,487	2,208,368	11.9%
1939	33,750,000	5,650,000	16.7%

In the case of gold, Russian production has been omitted in the totals for both years, because of the great uncertainty as to the accuracy of the available figures. As for the past several years nothing authentic is known about the Russian production, the writer's guess is that in 1939 it did

not exceed 6,000,000 ozs. and may have have fallen below 5,000,000 oz.

#### SILVER

The price paid by the United States Government for newly mined domestic silver was maintained at 64.64¢/oz. until the third quarter on July 6, 1939, this price was raised to 71.11¢/oz. The Government continued to buy foreign silver at 42.75¢/oz. at New York until June, when it was lowered to 35¢/oz. and with minor variations maintained at about that figure to the end of the year.

In London the price was maintained a fraction over 20 pence until the break in the New York market in June. It reached a low in August of slightly below 17 pence. The decline in sterling from \$4.68 to below \$4.00 with the outbreak of war, brought the average for September back to over 22 pence. Toward the close of the year there was renewed buying from India which suggested the possibility of a war demand from that country similar to that developed in the World War. This might serve to lighten materially the load on the United States Treasury involved in the wholesale buying of foreign production.

#### SILVER PRODUCTION

	World Production (ex. Russia)	United States	Per Cent of World
1929	261,511	61,328,680	23.4%
1939	262,000,000	57,000,000	21.7%

## IRON AND STEEL

### IRON AND STEEL

By EDWIN F. CONE

EDITOR, *Metals and Alloys*

#### UPTURN IN STEEL INDUSTRY'S OPERATIONS

The history of the American steel industry for the year 1939 offers a decided contrast to that of the two previous years. The year ended on a high note of optimism, whereas the contrary was the case in 1938 and 1937. In 1937 the bulge in operations collapsed by the end of the year, and in 1938 the volume was much below average for normal years. But in 1939, after rather slack demand during the first few months, a decided upturn developed in the latter months which was accelerated by the outbreak of the European war. By the end of the year, operations were up to over 91 per cent of capacity as contrasted with 54.5 per cent in the first quarter. This upturn is not credited to war orders, but more to low inventories and a better feeling.

#### STEEL AND PIG IRON PRODUCTION

Final figures for the output of steel for 1939 were not available when the year closed. Estimates, based on 11 months' data, show that the 1939 total for steel mill output approximated 46,800,000 gross tons, according to the American Iron and Steel Institute, compared with 28,200,000 tons in 1938 and 50,568,700 tons in 1937. This will make the 1939 record the third largest since the 1929 output.

Average operations for the first quarter were 54.5 per cent of capacity, with 50.8 per cent for the second, rising to 62.2 per cent in the third, and to an estimated 91.2 per cent in the last. It is of interest to point out, as showing the trend of the year's operations, that slightly more than one-third of the year's steel output was made in the final three months. All earlier records of tonnage produced in any one of the months, October, November and December, were broken.

The estimated pig iron output for

1939 is placed at 31,500,000 gross tons which again is less than the 37,127,277 tons in 1937. It is considerably larger than that of 1938 at 19,161,000 tons.

In neither pig nor steel has the American steel industry reached the large totals of 1928 and 1929.

#### PIG IRON AND STEEL PRODUCTION

Year	Pig Iron	Steel
1939	31,500,000*	46,800,000*
1938	19,161,000	28,200,000
1937	37,127,277	50,568,701
1936	31,029,187	47,767,856
1935	21,372,699	34,092,594
1934	16,138,573	26,055,289
1933	13,345,602	23,232,347
1932	8,781,453	13,681,162
1931	18,426,354	25,945,501
1930	31,752,169	40,699,483
1929	42,613,983	56,433,473
1928	38,155,174	51,544,180
1926	39,372,729	48,293,763
1921	16,688,000	19,783,000
1913	30,966,000	31,301,000
1898	11,774,000	8,930,000

\* Estimated

#### IRON AND STEEL EXPORTS

Exports of iron and steel in 1939 were larger than in 1938 but not so large as in 1937. Total exports to Nov. 1, 1939 were 4,870,400 gross tons, including pig iron and scrap, compared with 5,152,700 tons for all of 1938 and 7,567,800 tons for all of 1937.

The large foreign demand for American pig iron, which was a feature of the 1937 and 1938 exports, was at a much lower ebb in 1939. To Nov. 1, the total was only 121,500 tons as contrasted with 373,800 tons for the same 10 months in 1938. In 1937 the export rate was 65,200 tons per month compared with 37,470 tons each month in 1938 and only 12,150 tons monthly to Nov. 1, 1939.

Exports of scrap iron and steel continued to be a feature of the 1939 export movement, most of this material going to Japan. To Nov. 1 the scrap exports had been at the rate of over 309,800 gross tons each month, contrasting with the record volume of



## XII. MINERAL INDUSTRIES

341,300 tons per month in 1937 and with about 250,300 tons monthly in 1938. The amount sent to Japan was close to 53 per cent of the total in 1939. In 1937 that country's share was about 46.7 per cent. In the four years, 1934 to 1937, Japan bought over 5,255,500 tons or 52.6 per cent of the total exports of over 9,967,800 tons. Many feel that these large exports are worthy of government analysis and curbing, for much of Japan's war efforts in China are due to American scrap iron and steel.

### ALLOY STEELS

Data as to the volume of alloy steels made in 1939 are not available until May or June so that it is possible here to take cognizance of only the 1938 output. The keen interest in alloy steels in general continues unabated and the trend toward greater use of these steels is still upward.

The following table, compiled from the official data of the American Iron and Steel Institute, shows the trend in recent years in gross tons:

Year	Total Alloy Steel	Per Cent Total Steel
1929	3,957,207	7.01
1930	2,443,311	6.00
1931	1,455,913	5.61
1932	798,604	5.80
1933	1,547,183	6.65
1934	1,612,275	6.17
1935	2,119,658	6.21
1936	2,883,622	6.04
1937	3,032,626	5.98
1938	1,476,348	5.20

The depression years have had little retarding effect, and the demand for these steels is fairly stable.

### STAINLESS STEELS

Due partly to the fact that the total volume of steel in 1938 was comparatively low, the amount of stainless steels produced was less than in 1937. Again according to the American Iron and Steel Institute, the quantity of this class of steels produced in 1938 compared with previous years was as follows in gross tons:

Year	Total
1934	49,917
1935	65,697
1936	90,966
1937	139,838
1938	85,673

The 1938 output was the smallest since 1935. One interesting fact in this connection is that the percentage of stainless steel of the total alloy steel produced was the highest on record at 5.82 per cent. In 1937 this was 4.61 per cent and only an average of about 3.12 per cent for the years 1934, 1935, and 1936.

### ELECTRIC STEEL

The production of electric steel in the United States in the last 10 years has been fairly steady with some gains. The percentage of electric steel of the total steel produced has, since 1920 and the earlier years, been characterized by a steady growth, not seriously interfered with by the depression. From 1933 to 1938 inclusive, the percentage of electric steel of the total steel has averaged, with one exception, from 1.58 to 1.81 per cent, with the 1938 figure of 1.78 per cent close to the high. In 1920 the figure was only 1.20 per cent with an advance to 1.35 per cent in 1926 and to 1.68 per cent in 1929. The electric steel production in 1938 was 505,024 gross tons. All signs point to an even greater increase in coming years.

An interesting fact is that the percentage of alloy steels made in electric furnaces in 1938 reached a new high at 22.5 per cent. In 1937 it was 19.8 per cent and in 1929 only 12.87 per cent.

### RESEARCH

There has been during 1939 no abatement of the research work in the steel industry. Progress has been made but no new developments of an outstanding nature have been announced. Progress in research is measured in longer periods than 12 months; very seldom is one project solved in one year. In this connection attention may be called to a series of 10-year reviews of metallurgical progress which were published in the October, 1939 issue of *Metals and Alloys*, written by leaders in various fields.

### OUTLOOK FOR THE INDUSTRY

It would be rash to attempt now a forecast of the future of the American steel industry. With world conditions such as they are, no one can indulge

## COAL AND COKE

safely in predictions. The best opinion seems to be that the industry will enjoy the present rate of operations (around 90 per cent) for some months, with the future dependent on world conditions.

## COAL AND COKE

By R. DAWSON HALL

ENGINEERING EDITOR, *Coal Age*

### COAL PRODUCTION CONDITIONS

Not until near the close of 1939 did the coal market become active. In the early half of the year even wage conferences and the threat of minimum prices failed to stir the dol-drums. One reason for the fall recovery, strange to say, was the drought. When reservoirs are low, less hydroelectric power is available, and boilers and steam turbines which require fuel have to carry the peak load. Activity in industry, particularly in pig-iron furnaces, due to the war, which at the close of the year were running at 90 per cent of capacity, increased the demand for coal, and the unreasoned fear of a shortage tended to make an actual shortage exist, though far more than enough coal is always available for every immediate need provided there is not a senseless stampede.

As a result of these several influences, output in the bitumino-lignite areas increased 13 per cent over the 1938 production. Even anthracite reacted favorably, for Canada dreaded a shortage, and the prospect of getting coal from across the seas seemed questionable. So anthracite production also showed an increase of 10 per cent over that of the previous year. But, at the close of the year, the psychological letdown and the rise in stocks were evidenced by a decline in the fever of the bituminous market.

### COAL PRICES

At the beginning of 1939 most people expected that the Bituminous Coal Commission would soon establish minimum prices. In its annual report to Congress, Jan. 22, the Commission declared that the industry lost \$37,000,000 in 1937 or 11c per ton. The United Mine Workers of Amer-

ica placed the loss at 15c. On the following day, coordination proceedings commenced for Price Area No. 1—Pennsylvania, West Virginia, Ohio, Maryland, Virginia, Michigan, eastern Kentucky and northeastern Tennessee. Some other smaller areas had made even greater progress.

Feb. 10, 35 leading operators, forming the Committee for Amendment of the Coal Act, protested that the delay in setting prices showed that satisfactory prices could not be fixed and, if fixed, could not be maintained and would result in excessive litigation. It stated that contracts of longer terms than 30 days should be permitted and the 1c tonnage tax removed, saving the industry three or four million dollars annually.

On Feb. 16, Justice Miller, U. S. Court of Appeals, District of Columbia, denied an injunction to Atlanta, Ga., by which the Commission would be restrained from promulgating minimum prices. The judge declared that the act was constitutional, for it did not delegate excessively the legislative powers of Congress, also that it was not an infringement on the sovereign powers of the City of Atlanta, and was no usurpation of the authority reserved to the states under the Tenth Amendment. When the city took the matter to the U. S. Supreme Court that Court ruled Nov. 13 that the municipality could not enjoin the Commission until damaged and could not be damaged until minimums were set.

Though Representative R. G. Allen (D. Pa.) introduced a bill approved by the Committee for Amendment of the Coal Act, the fixing of minimum prices seemed to be imminent when the President's reorganization order cast the matter into the hands of

## XII. MINERAL INDUSTRIES

Secretary of the Interior Ickes on July 1. The Commission believed its prices merely needed issuance, but hearings continued to the close of the year without any definite fixing of prices.

### WAGE AND HOUR CONTRACTS

In 1939, new wage contracts were made in both the bitumino-lignite and anthracite areas. On March 14, the United Mine Workers demanded of the Appalachian operators at the wage conference in New York City that hours be reduced from seven to six, the five-day week being kept intact, and that all day men get an increase of 50c a day, that men paid monthly get proportionate increases, that the minimum daily rate be \$5, that cutters get 2c a ton more, loaders 13c, and pick miners 25c more. Yardage and deadwork rates were to be raised 20 per cent.

Rates for conveyor and other mechanized mining were to be adjusted so that mine workers using such equipment would earn wages commensurate with their increased productive efficiency, with minimums above the earnings of hand loaders. It was demanded that this same principle apply to strip mining. Extra compensation was to be paid if improved machinery entailed additional work.

Double time was asked for all Sunday and holiday work. Vacations with pay and a guaranteed work year of 200 days per year were other demands.

The operators, on the other hand, wanted a return to the 1935-37 agreement with the present 35-hour week. Eventually both parties agreed to the renewal of the 1937-39 Appalachian contract except that the U.M.W. wanted the closed shop, to be the "exclusive bargaining agency" and to do away with penalties provided for strikes in violation of the contract. On April 1, because there was no settlement, the Appalachian operators closed down their mines and a shortage of coal threatened.

Much pressure was brought to bear on the contracting parties and, on May 13, at a general conference, eight

northern producers' associations voted to accept the old agreement with, however, the United Mine Workers as the exclusive bargaining agency; many more of the operators' associations fell into line, some at the meeting, others later. Some Harlan County (Ky.) operators lined up with the others soon after the meeting but others delayed acceptance for a considerable time. Governor Chandler of Kentucky moved 800 militiamen into Harlan County to protect those who desired to work, but eventually all parties signed up for recognizing the union as sole bargaining agency.

When the Appalachian operators made their agreement, other non-Appalachian operators settled with the union on the same basis. Before April 1, these outlying regions had contracted with the union to continue operation after that date on the 1937-1939 scale until such time as the Appalachian scale was signed, but this contract was revocable at short notice. To bring pressure on the consumer and thus on the operators, this revocation clause was invoked by the union, and an idle period resulted in mines outside the Appalachian region. In the Appalachian region the closing of the mines on the termination of the contract was declared to be a lockout, and doubt arose as to whether the workers thus made idle could claim compensation while striving for a new and revised contract. A Tennessee and a Virginia court denied the right to compensation, but an Ohio court conceded it.

On April 30, the anthracite wage contract also expired; negotiations for a new contract began in New York, April 18. The mine workers asked a two-year agreement, a six-hour day, five-day week, same pay for six hours as they had been getting for seven hours, plus a nominal increase, equal division of working time, time and a half for overtime, double time for Sundays and holidays, seniority rights, abolition of contract system and of physical examinations, two weeks vacation with pay, guarantee of 200 working days in the year, and mining properties not to be leased without security of lessor for pay-



ment of wages by lessee. The 1937-39 contract was extended from week to week, and an accord was reached May 27 which renewed the old contract for two years but provided for a "union-shop."

Identical bills were presented by Senator Neely (D. W.Va.) and Representative Keller (D. Ill.) during the second month of May authorizing the U. S. Bureau of Mines to inspect coal mines and to publish findings in accord with a demand made by the union. This legislation is said to have been favored by Secretary of the Interior Ickes and opposed by the National Coal Association and many of the staff of the Bureau. It failed of passage but will probably be revived in 1940.

## MECHANICAL PROGRESS IN MINING

Coal loading, during 1939, was being mechanized rapidly. The impurities that machines can not help loading and the slowness with which car changes can be made under machine loading booms always have hampered development. This latter inefficiency was aggravated by the small capacity of the mine cars in use, for more small cars had to be placed and withdrawn for any given tonnage. Nevertheless, despite all drawbacks, high wages to some extent made mechanization attractive in Illinois and Indiana.

**Mechanical cleaning**, which today is less expensive and more efficient than hand cleaning, and thus can remove such impurities as machines always load, is increasingly common. It is instituted not only to remove impurities indiscriminately loaded by machine but to satisfy a fastidious market that would not accept even the cleaner hand-loaded coal. In any case, new tipples are needed to produce the new sizes and mixtures. With such new construction, mechanical cleaning is a natural evolution. Wages are now high throughout the coal field. Thus nearly all the former resistance to loading mechanization is overcome.

**Tractors and Shuttle Cars.**—Now comes the rubber-tired storage-bat-

tery tractor, and its further development the shuttle car, so that, in one mine, the output of a machine has increased from 103 to 180 cars per shift. Mechanical loading, mechanical cleaning, and rubber-tired tractors made rapid strides in 1939. Sixty-seven such tractors were installed, raising the aggregate to 101. These mine tractors are battery-driven and can be made flameproof. Some claim that, by elbowing the arcing trolley locomotive from the vicinity of the working face, which often is "gassy," the rubber-tired unit will increase safety materially. The haul is usually a maximum of 500 ft.

One style of tractor drops its coal into a bin from which it is lifted by a conveyor into a "trip" or train of cars. The shuttle car backs under the overhanging boom of the loader, and the coal fed into it is carried forward by a conveyor bottom until the tractor is fully loaded. The tractor then proceeds under its own power to the loading station where it backs over an inclined conveyor which it straddles by running up an improvised ramp to a platform. Sometimes the lower end of the conveyor is sunk in a pit and a ramp is not needed. The coal then is moved out of the tractor by starting the conveyor which forms the bottom of the car body. It falls into a string of cars, set about at right angles to the boom. Thus emptied, the tractor is run to a back switch and returns to the loader the instant it is needed. Such tractors carry up to 6½ tons.

**Haulage.**—An objection to mechanized loading was the cost of providing large cars, for small cars involved too many time-wasting changes. Now, only three units are needed to service one loader. True, they themselves must be big, but they can fill a train of small cars. Big cars might be too big to be caged in the shaft. Another advantage is that no tracks need be laid in rooms or faces, and if the roof falls or places squeeze no track is lost. Contrariwise, loaders and cutters must be mounted on caterpillars, and the mine floor may be too soft for haulage. The roof also must permit of wide



## XII. MINERAL INDUSTRIES

headings or must be supported by long crossbars. Many manufacturers are entering or have entered this promising field of transportation. Having track with railroad main-line standards, Thermit-welded, the Hanna Coal Co., at Neffs, Ohio, has introduced in its mine an eight-wheel trolley locomotive capable of traveling at 35 miles per hour, quite an innovation in underground haulage.

**Drying.**—In the drying of coal a new development at the Truax-Traer Coal Co.'s mine, Fiatt, Ill., is the placing of a revolving door or "pul-sator" in front of an exhaust fan which latter pulls air through a dewatering vibratory screen. Sudden opening of the door causes a rapid flow of air through the bed of coal being vibrated on the screen compressing the coal bed and squeezing out the water. Closing the door leaves the screen vibration free to reopen up the bed and rearrange the particles. This in rapid cycle and the use of heated air, remove, it is said, much of the water, and dewatering always has been a major problem in the cleaning of fine sizes.

**Mine Roof Supports.**—The Youngstown Sheet & Tube Co. at its affiliated mines is using, in place of its brick pilasters to support heading roof, two telescoping steel-pipes welded where the two pipe sizes meet. Sheet-steel arches also have been introduced. Another company in the Connellsville region is using steel crossbars at the working face. These are of three types: (1) I-beams with the upper flange wider than the lower, (2) channels or (3) "plug-hat" beams. In the first case the flanges are connected above the mine posts by steel strips from lower to upper flange and welded to both, and in the second the bottom of the beam over the mine posts rests on a plate welded to the bottom of the beam. Not quite so new, but reported in 1939 for the first time, is the use by the Hudson Coal Co. of steel arches and steel arch plates.

**Stripping.**—Stripping overburden by rubber-tired lifting-and-carrying scrapers makes progress where the cover over the coal is not too hard

or too thick. Thus at the Blue Bell coal mine, Dover, O., where the cover is 26 ft. and shooting almost never is necessary, the shale, clay, and banded "iron-ore" cover is scarified in 2-ft. layers. The top shale and clay are loaded and carried away by a 12-cu. yd. lifting-and-carrying scraper. Where the hard shale and iron ore occur, an 80-hp diesel wagon scraper on rubber tires follows the scarifier.

An ordinary cut when made by a stripping shovel is about 60-ft. wide. With scrapers it might be and at Blue Bell is sometimes 250 ft. wide, so the coal can be mined with less violence and is therefore blockier than when uncovered by a shovel. More men can be placed on a coal face and more coal can be left exposed awaiting improved markets, and if the under-clay is needed the absence of backfill favors its recovery.

At the Tiger strip pit of the Hume-Sinclair Coal Mining Co., Hume, Mo., an 80-ton semi-trailer pulled by a two-engined butane-electric tractor is in use, and for the Tecumseh Coal Co.'s stripping, Dickeyville, Ind., a 40-cu. yd. stripping shovel is being constructed which will excavate at each bite the equivalent of a 10¼ ft. cube. With increased size of trailers the need for better roads is felt. Hence at No. 2 pit of the Clemens Coal Co., Mulberry, Kan., where 32-cu. yd. semi-trailers are used, "chat" waste from lead and zinc concentrators is spread for surfacing, and this is bound with asphalt. Illinois, which provided 300,000 trees and supervision at nominal cost for planting stripped coal areas in 1938, made in the past year similar provision for the planting of 700,000 trees. The strip-pit operator pays also for labor of planting.

**Processing Plants.**—A carbonization plant with 20 Curran-Knowles ovens for making a medium-temperature smokeless coal, to be sold in the neighborhood of St. Louis, has been built at Millstadt, Ill. by the Midwest Radiant Corporation. It is similar to that of the Radiant Fuel Corporation at West Frankfort, Ill. Mayor Dickmann of St. Louis has

appointed a committee to study means of processing bituminous coal to make it burn smokelessly. An effort is being made to induce St. Louis to erect a processing plant for coal.

## MINING SAFETY

Safety made an exceptional record in 1939, though it was not the best year of record. A disaster at the Duvin mine of the Ruckman Coal Co., Providence, Ky. killed 28 persons, July 14. From April 22, 1938 to the end of the year there had not been a major explosion disaster in the lignite or bituminous mines. At the year's end no major disaster of any kind had occurred in the anthracite mines for more than 19 months, that is, since June 2, 1938.

## RESEARCH

Research during the year suffered from the abstention of the Bituminous Coal Research, the affiliate of the National Coal Association. It is re-financing for work in 1940-1942. The U. S. Bureau of Mines also is badly crippled for lack of resources, but the public is beginning to demand that studies in coal utilization be made especially in regard to the possibility of producing a smokeless product. In Illinois, \$180,000 was provided by the state for the development by the State Geological Survey of a smokeless Illinois coal. Out of this, \$95,000 will be spent on the construction of a research laboratory.

The Works Progress Administration received a grant of \$30,000 to study the smoke nuisance in St. Louis, Mo. In Utah the Utah Conservation and Research Foundation is preparing its report on low-temperature carbonization of the Utah coals made with the aid of an appropriation of \$25,000, but the additional \$75,000 proposed was rejected by the legislature by a small margin. Many other projects for Federal and state

government studies into coal devolatilization and other cognate matters died aborning.

At the close of 1939 the B. F. Goodrich laboratories publicized the development of Koroseal made of coal, limestone, and salt, declaring it will "duranize" almost all fabrics, making them sunproof, waterproof, odorless, and washable. Tennessee Valley Authority engineers made the claim that they had discovered a way to coke coal electrically at a profit, using off-peak current. Nylon, a Dupont product from coal, received four patents covering the use of polyamide yarn for stockings, re-boarding of stockings, setting yarns and fabrics. Toward the end of the year such material appeared on the market.

Percentage expansion of coal in coking, declared the U. S. Bureau of Mines, varies inversely with the logarithm of the load under which the coal is coked. The same authority announced (R. I. 3378) that the hydrogen content of the gas from anthracite heated out of contact with air between 1472 and 1832 deg. F. ranges between 84.2 and 89.4 per cent, but below 662 deg. F. the gases are mostly carbon dioxide, water vapor, and carbon monoxide.

At Columbia University, P. B. Bucky has been using Bakelite models of roof supports and stressing them under polarized light. The illuminated color bands on fringes resulting show the incidence of stress. The traditional way of shaping a pillar for maximum effectiveness as a support with maximum extraction has been to give the pillar a sort of mushroom top. Professor Bucky would advocate the reverse practice and decrease the girth of the pillar near the roof. He declares that the fringes in the Bakelite models point definitely to his conclusion (A.I.M.E., T.P. 1140).

## XII. MINERAL INDUSTRIES

### NON-FERROUS METALS

By ARTHUR NOTMAN

MINING ENGINEER AND GEOLOGIST, NEW YORK

#### WORLD PRODUCTION

World production in 1939 of copper, zinc, and lead, the three major non-ferrous metals, will aggregate about 6,050,000 short tons, compared with the all-time peak of 6,237,944 tons in 1937, and the previous peak of 5,679,442 tons in 1929. The United States will furnish 30.9 per cent of the total compared with 30.4 per cent in 1937 and 41.3 per cent in 1929. The following table gives production details of the three metals in short tons:

Copper			
	World	U. S.	U. S. Per Cent of Total
1929	2,127,000	1,026,348	48.2%
1937	2,503,966	834,835	33.3%
1939	2,500,000	800,000	35.5%

Lead			
1929	1,931,544	688,000	35.6%
1937	1,895,491	469,892	24.8%
1939	1,900,000	450,000	23.7%

Zinc			
1929	1,620,898	631,600	38.9%
1937	1,838,487	589,619	32.1%
1939	1,900,000	620,000	32.6%

The outbreak of the war in Europe has imposed added difficulties and delays in securing accurate statistics, and the 1939 figures are necessarily estimates. The figures for the prior years were compiled by the American Bureau of Metal Statistics.

#### U. S. AND CANADIAN PRODUCTION

It is obvious that American production has declined greatly in importance to the world as a whole in the last decade. It is perhaps too early to say whether this trend will continue with greater or less intensity in the future; however, there seems little likelihood of any reversal. In the meantime, behind the tariff walls, irreplaceable supplies are continuing to be exhausted.

Although figures for aluminum for 1939 are not yet available, there is the same trend. In 1929, the United States produced 102,100 tons or 36.3 per cent of the total, while in 1938, it furnished 130,000, which was only 22.3 per cent.

Of the other important non-ferrous metals, tin, manganese, nickel, and chromium are little produced in this country, so that the figures would be without significance.

Similar figures for Canada are shown below.

#### FOREIGN METAL SITUATION

**Germany.**—In the case of aluminum, Germany's production has increased nearly five-fold from 35,700 in 1929 to 165,700 tons in 1938.

**Britain and France.**—The position of the British Empire and France with respect to supplies of the major non-ferrous metals is obviously more favorable than that existing at the outbreak of the World War. They are in a position to make arrangements with Empire producers of these

	Copper		Lead		Zinc		Aluminum	
	Production	Per Cent of World	Production	Per Cent of World	Production	Per Cent of World	Production	Per Cent of World
1929	121,151	5.7%	159,162	8.2%	86,049	5.3%	42,000	14.9%
1938	290,200	13.3%	204,646	10.9%	155,726	8.9%	66,000	11.3%

## NON-FERROUS METALS

metals on terms which preclude any rapid mark-up in price. In fact, judging from press reports, they have already done so. Apparently, they are in the same position with respect to many other important war materials. So long as they control the sea lanes and there is no real shortage of manpower, they will be able to resist strongly any general rise in the price level. No other single factor will prove so important in reducing the cost of the war and the evil effects of its aftermath. Unless commodity prices run away, wages can be maintained at reasonable levels. That this situation will continue should be hoped for by belligerents and neutrals alike.

### TIN

World tin production as estimated by the American Bureau of Metal Statistics was about 160,000 long tons as compared with 147,800 tons in 1938. Domestic deliveries were about 68,000 tons compared with 50,600 tons in 1938.

The domestic price rose from a February low of 45.64¢/lb. to a high of 64.588¢/lb. in September, and closed the year around 48¢/lb. The London price rose steadily from the February low of £213.906 per long ton to close the year at about £245.

With the outbreak of war in Europe, announcements were made by the Phelps Dodge Corporation and the American Metal Company of their intention to inaugurate small-scale tin smelting operations in this country. During the World War tin smelting was carried on here by the National Lead Company on a small scale. These operations were abandoned as unprofitable shortly after the Armistice in November, 1918.

### COPPER

Since the outbreak of war in September, no figures have been published by the Copper Institute. The last available report furnished statistics to the end of July only. On July 31 world stocks of refined copper were reported at 490,419 tons as compared with a peak of 522,722 tons on April 30, 1939.

World production of refined copper had averaged 168,362 tons per month for the first seven months, dropping to a low of 158,236 tons in July. Since Sept. 1 both production and consumption have increased substantially and will probably approach the all-time high of 2,503,966 tons reported by the American Bureau of Metal Statistics for production and 2,407,739 tons for consumption in 1937. It is impossible to say whether stocks of metal will show a further decline. In the meantime the price of the metal as reported by the *Engineering and Mining Journal* has increased from a low of 9.775¢/lb. electrolytic f.o.b. refinery in June to a current

### POTENTIAL WORLD SUPPLY OF NEWLY MINED COPPER

(Short Tons)	
United States.....	1,000,000
Cuba.....	15,000
Mexico.....	60,000
Canada.....	330,000
Newfoundland.....	5,000
<b>Total North America.....</b>	<b>1,410,000</b>
Bolivia.....	5,000
Chile.....	515,000
Peru.....	50,000
<b>Total South America.....</b>	<b>570,000</b>
Norway.....	25,000
Sweden.....	10,000
Finland.....	15,000
<b>Total Scandinavia.....</b>	<b>50,000</b>
Spain and Portugal.....	40,000
Yugo-Slavia.....	50,000
Germany.....	40,000
<b>Total Europe.....</b>	<b>180,000</b>
Russia.....	120,000
Japan.....	85,000
India.....	12,000
Other Asia (including Cyprus)....	50,000
<b>Total Asia.....</b>	<b>267,000</b>
Belgian Congo.....	170,000
Rhodesia.....	250,000
Other Africa.....	30,000
<b>Total Africa.....</b>	<b>450,000</b>
Australia.....	25,000
<b>Grand Total.....</b>	<b>2,952,000</b>

The nature of the Chilian and Rhodesian deposits, is such that with additional plant another 100,000 to 200,000 tons could be secured in a year to 18 months from the time active work was started.



## XII. MINERAL INDUSTRIES

figure (Dec. 12) of 12.375¢. The annual average should be about 11.00¢ as compared with 10.00¢ for 1938 and 13.167¢ for 1937.

copper since the last war. As a matter of interest a similar improvement has been developed in lead and zinc supplies.

### PER CENT OF WORLD'S COPPER SUPPLY

	United States	Canada	South America	Africa
Average 3 years 1916-1918 inclusive.....	61.90%	3.56%	10.22%	2.67%
Average 2 years 1937-1938 inclusive.....	29.61%	11.79%	19.81%	17.31%

Potential world capacity is of the order of 3,000,000 tons per annum of which 1,000,000 is in the United States, 75,000 tons in Mexico and Cuba, 330,000 in Canada, 570,000 in South America, and 450,000 in Africa.

For the present at least, there seems little likelihood that there will be any call for this total in spite of war and rearmament. Much will depend on whether the sea lanes are kept open and what may remain of neutral rights to trade with belligerents.

### COPPER AND THE WAR

Russia, Japan, and Germany are all heavy importers of copper even in peace times, as is Italy, which has no production of her own. How these requirements will be met in the months to come, if at all, it is difficult to say. It seems obvious, however, that they will not be met in full. As long as the sea lanes are kept open by the Allies, there can be no shortage in their supply from Empire sources for all purposes. Under the arrangements between the British Government and Empire producers in Canada and Rhodesia, there is no evidence of war profiteering. If all commodity purchases are handled with the same intelligence on both sides, the cost of the war will be greatly reduced in comparison with the last war, and a destructive dislocation of prices and wages with which the world has struggled since then, will be greatly mitigated, if not avoided. The following table published by *Barron's Weekly*, Sept. 25, 1939, shows the greatly improved position of the Empire with respect to

### COPPER INDUSTRY

Under these conditions, the prosperity of the domestic industry will depend primarily on the course of domestic business, and directly on construction in the public utility and building industries rather than the European war. It is unlikely that the automobile manufacturers will attain any higher level of activity than they are enjoying at present, and will doubtless be grateful if that rate is sustained through 1940.

The volume of unemployed labor and the existence of idle manufacturing capacities stand squarely across the path of any increase in demand which could force a violent rise in prices, because of competitive bidding.

Lack of statistics on production and stocks since the declaration of war and uncertainty as to the prices to be received for foreign production particularly, make it extraordinarily difficult to forecast earnings for the coming year for many of our American companies, especially those with foreign production. If we examine a group of those companies which produced approximately 2,500,000,000 lbs. in 1937 and assume that they will produce a like amount in 1940, that the domestic price will be maintained, and that the foreign price may average about 1¢ lb. lower, the group will receive an average of about 11<sup>7</sup>/<sub>8</sub>¢/lb.

With costs at the 1937 level, this group will show earnings of about 3.25¢/lb. aggregating \$81,000,000 on a present market value of about \$1,064,000,000. If they should distribute in interest and dividends 80 per cent of such earnings, the average yield will be about 6 per cent.

# NON-FERROUS METALS

## MARKET VALUE OF SECURITIES AND YIELD, 1920-32

Year	Year-end Market Value of Securities (000,000 omitted)	Yield Based on interest and Dividend Payments (Per Cent)
1920 (lows)...	\$ 700	1.74
1921.....	913	2.10
1922.....	876	2.64
1923.....	959	6.43
1924.....	1,160	4.74
1925.....	1,142	5.67
1926.....	1,140	6.58
1927.....	1,144	7.12
1928.....	2,439	3.88
1929 (highs)...	3,351	4.76
1929.....	1,803	8.84
1930.....	754	11.93
1931.....	334	9.67
1932 (Dec. 29)	222	2.35

bility from 1924 to 1927 inclusive. In the five years prior to 1921 this same group distributed an average of \$104,-000,000 in bond interest and dividends per annum, during which period the average price received was 23.25¢/lb. and the aggregate production 1,650,-000,000 lbs. This comparison again emphasizes the increased control of the situation now exercised by the British Empire because of its own substantial output.

In the domestic field the inevitability of increased taxation and the continuing threat of government competition with the public utilities is not a favorable background for expansion of construction in that industry. Simi-

## SELLING PRICE AND INTEREST AND DIVIDENDS, 1921-32

Year	Production (Pounds) (000 omitted)	Average Selling Price Per Pound (cents)	Bond Interest and Dividends Paid		Per Cent of Average Selling Price Paid Out in Bond Interest and Dividends
			Total (000 omitted)	Per Pound (cents)	
1921	520,100	12.50	\$19,200	3.69	29.5
1922	1,064,000	13.38	23,100	2.17	16.2
1923	1,581,000	14.42	61,700	3.90	27.0
1924	1,924,000	13.02	55,000	2.75	19.6
1925	2,030,000	14.04	64,600	3.13	22.6
1926	2,114,000	13.86	75,000	3.55	25.7
1927	2,156,900	12.92	82,500	3.82	29.6
1928	2,496,500	14.57	94,900	3.85	26.4
1929	2,440,800	18.11	159,400	5.93	32.7
1930	1,888,600	12.98	95,600	4.97	38.3
1931	1,702,400	8.116	41,300	2.43	29.9
1932	882,200	5.555	8,400	.95	17.1
	21,100,400	13.52	780,700	3.70	27.3

The tabulation covers the same group of companies with the exceptions noted, namely, Mother Lode Coalition, Mohawk, Old Dominion, and United Verde Extension, which have now ceased to produce. The group turned out 2,500,000,000 lbs. in 1937, and it is assumed they will produce a like amount in 1940. It should be noted that they approached this figure closely in 1928 and 1929, and that estimated distribution of \$64,-800,000 is just about the average of the period from the lows of 1921 to the lows of 1932 inclusive, while the market value and yield approximate the level of the period of relative sta-

larly the high cost of building in metropolitan areas, upheld by the arbitrary and monopolistic practices of the building trade unions, together with the mounting burden of real estate taxes, has choked this avenue for the flow of capital into the construction industry. These two fields together with the automobile industry normally absorb the great majority of new copper production. The only offset to this unsatisfactory outlook is the rearmament program. It seems unlikely, however, that government requirements will go very far in taking up any failure of demand by the peacetime needs.

## XII. MINERAL INDUSTRIES

### LEAD

From a low of 4.75¢/lb. in New York in May, lead advanced with the declaration of war in September to 5.50¢/lb. The London spot price made a low of £14.337 per long ton in May but had recovered to £16.04 in August. Since then no London quotations have been reported. Domestic stocks of lead reached a high of 227,141 tons on April 1, and had declined to 146,793 tons on Dec. 1. At the same time domestic shipments rose from a low of 34,421 tons to a high of

66,060 tons in November, with December figures not yet available.

### ZINC

From a steady level of 4.50¢/lb. at East St. Louis for the first seven months of the year, the domestic price rose sharply to 6.50¢/lb. in October, to drop back again to 5.75¢/lb. at the year end. The London spot price recovered from the May low of £13.443 per long ton to £14.628 in August. Since then no quotations have been available.

## PETROLEUM

By AXTELL J. BYLES

PRESIDENT, AMERICAN PETROLEUM INSTITUTE

### GENERAL

All-time records in nearly every branch of the petroleum industry, and particularly in manufacturing and in consumption of petroleum products, were broken in 1939, yet early estimates indicate that the industry's net earnings were below even the reduced profits of 1938. Consumer prices generally slipped to near-record lows. The producing branch operated at a higher rate than in 1938, but total crude oil production was a few million barrels below the 1937 all-time peak. Outside the United States, petroleum production increased to the highest point in history.

Discovery of oil in commercial quantities in Mississippi and Nebraska in the last quarter of 1939 brought to 23 the number of oil-producing states and, with the new fields and new producing strata opened up in other states during the year, adds substantially to the nation's proved reserves. These developments re-emphasize that United States consumers need fear no exhaustion of petroleum.

Several new catalytic, chemical, and thermal refining processes, further assuring more than adequate supplies of super aviation fuel and advancing the commercial perfection of a host of synthetic basic industrial chemicals, were announced in 1939. These

are only a few among many technological advances made in all branches of the industry during the year.

Early stages of the European war had little effect on the industry; in the first month, October (the latest available data), exports of motor fuel actually declined. Industry economists make no predictions for 1940, however, but point to the unusual nature of the war, the loss of the central European countries as customers, the substantial Asian and South American sources of supply now open to England and France, and to the rationing of petroleum products throughout Europe, as evidence that the war may continue to have little effect on United States petroleum trade in 1940.

Late in September the Temporary National Economic Committee began a four-week investigation of the industry. Testimony presented convincing evidence that the industry is typical of the best in the American system of free enterprise, and is thoroughly capable of solving its own problems. Another Congressional group, the Cole Committee, has been conducting hearings on the Cole Bill, designed to effect Federal control of oil production. The bill has been denounced as unnecessary by many in the industry, and by state officials, and was protested in a resolution of

## PETROLEUM

the American Petroleum Institute's board of directors in November.

### CRUDE OIL

**World and Domestic Output.**—Total world production of 2,077,631,000 barrels of crude petroleum indicated for 1939 a 5.6 per cent increase over 1938 to the highest total in history. United States production, estimated at 1,260,099,000 barrels, 3.8 per cent above 1938, lacked 19,000,000 barrels of topping the all-time record set in 1937. Countries outside the United States accounted for 817,532,000 barrels, 8.5 per cent more than 1938's previous high of 753,332,000 barrels. The United States proportion of the total decreased fractionally to 60.7 per cent.

low 10,000 feet is believed to have continued to increase. An Oklahoma well drilled in 1939 approached within 422 feet of the record but stopped there, making it the second deepest well in the world and by far the deepest outside California.

### WELLS COMPLETED IN THE UNITED STATES

Year	Oil	Gas	Dry	Total
1933.....	8,073	923	3,318	12,314
1934.....	12,520	1,368	4,309	18,197
1935.....	15,108	1,401	4,911	21,420
1936.....	18,523	2,070	5,297	25,890
1937.....	23,678	2,695	6,432	32,805
1938.....	19,286	2,066	6,141	27,493
1939 (est.)...	18,459	2,191	6,388	27,038

### PRODUCTION OF CRUDE PETROLEUM

(In Barrels of 42 U. S. Gallons)

Year	United States	Rest of World	Total World
1933	905,656,000	536,344,000	1,441,000,000
1934	908,065,000	613,380,000	1,521,445,000
1935	996,596,000	658,092,000	1,654,688,000
1936	1,099,687,000	702,099,000	1,801,786,000
1937	1,279,160,000	762,878,000	2,042,038,000
1938	1,214,355,000	753,332,000	1,967,687,000
1939 (estimated)	1,260,099,000	817,532,000	2,077,631,000

### Exploration and Drilling Activity.

—Wildcat drilling discovered commercial quantities of oil in two new states in 1939—Mississippi and Nebraska; Mississippi had been listed as an oil state in previous years, but production was inconclusive and amounted only to a few thousand barrels of oil in some years, none in others. No spectacular new fields were opened but several were found, and new producing strata, equivalent to new fields, were discovered under older fields. The number of completed wells declined 1.7 per cent from 1938, reflecting economic conditions in production, but revived activity in the last quarter indicated an upward trend in oil-well drilling. Of 1939's 27,038 completed wells, 18,459 found oil and 2,191 struck gas. No wells penetrated deeper than the 1938 record California well, 15,004 feet; but the number of wells drilled be-

**Storage.**—Stocks of crude petroleum in storage at the end of the year are believed to have dropped to 237,825,000 barrels, 37,133,000 barrels below the 1938 year-end carry-over and the lowest since 1921.

### CRUDE OIL IN STORAGE AT END OF YEAR

(In Barrels of 42 Gallons)

Year	
1931.....	379,660,000
1932.....	339,715,000
1933.....	355,312,000
1934.....	337,254,000
1935.....	314,855,000
1936.....	288,579,000
1937.....	306,826,000
1938.....	274,958,000
1939 (est.).....	237,825,000

**Foreign Trade.**—Exports of crude petroleum dropped slightly in 1939, in contrast to a rise in imports, but the United States continued its favorable foreign-trade balance since exports were more than double the imports.



## XII. MINERAL INDUSTRIES

Estimated exports totaled 73,594,000 barrels, a decline of 4.7 per cent from 1938. Imports rose an estimated 27.7 per cent to 33,735,000 barrels; imports in bond for re-export, which have no effect on domestic trade, accounted for 15.4 per cent of total imports.

### FOREIGN TRADE IN U. S. CRUDE PETROLEUM

(In Barrels of 42 Gallons)

Year	Imports	Exports
1933.....	31,893,000	36,584,000
1934.....	35,558,000	41,127,000
1935.....	32,239,000	51,430,000
1936.....	32,327,000	50,313,000
1937.....	27,484,000	67,234,000
1938.....	26,412,000	77,254,000
1939 (est.)...	33,735,000	73,594,000

**Prices.**—Crude-oil prices, as indexed by the 36-degree gravity Oklahoma-Kansas price, remained stationary throughout 1939 at \$1.02 a barrel. No estimates are available of the average per-barrel price for all oil produced in 1939, but it undoubtedly will be below the 1938 average, \$1.13.

### CRUDE OIL PRICES

(Per Barrel of 36 deg. A.P.I. Gravity  
Oklahoma-Kansas Oil)

Year	High	Low
1933.....	\$1.00	\$ .25
1934.....	1.00	1.00
1935.....	1.00	1.00
1936.....	1.10	1.00
1937.....	1.22	1.10
1938.....	1.22	1.02
1939*.....	1.02	1.02

\* Up to December 15, 1939

### PETROLEUM REFINING

**Volume.**—The quantity of crude oil processed by United States refineries in 1939 reached the highest point in the industry's history, as an estimated 1,238,959,000 barrels were run to stills, an increase of 6.4 per cent above 1938. Runs were at a slightly higher rate than was demanded by the 4.4 per cent increase in the demand for motor fuel, the product to which refinery operations usually are geared, par-

ticularly in view of stocks of motor fuel considered higher than necessary by many industry economists.

### CRUDE OIL RUN TO STILLs

(In Barrels of 42 Gallons)

Year	
1933.....	861,254,000
1934.....	895,636,000
1935.....	965,790,000
1936.....	1,068,570,000
1937.....	1,183,440,000
1938.....	1,165,015,000
1939 (est.).....	1,238,959,000

**Refinery Operations.**—Number of refineries in operation in the United States rose slightly in 1939 to an estimated 445 from the 435 operating at the end of 1938. The difference does not accurately reflect activity in refinery construction, however, because no data are available as to the number of refineries built, shut down, or dismantled, nor can the amount of construction adding to the capacity or advancing the technology of existing plants be estimated.

Tremendous progress was made in the development of new refining processes several of which were announced during 1939. Catalytic refining processes described for the first time in 1938 were further improved, and new thermal and chemical processes were reported at various stages of progress, ranging from proved commercial practicability to some which are laboratory processes now and which apparently will be of great value in the future. Many of the new processes are concerned with making maximum amounts of super aviation fuels, and methods now effective, industry scientists report, guarantee production up to 6,000,000,000 gallons a year, 60 times the present annual consumption of all aviation fuel. Beyond these aviation fuels, however, are fabulous synthetic basic industrial chemicals, themselves the bases of hundreds of essential products ranging from synthetic rubbers and plastics to explosives and even to foods, all made from petroleum.

Petroleum scientists each year are getting a clearer vision of a huge petroleum refining industry of the future, which no longer merely will refine crude oil, but will, by precise

## PETROLEUM

physical and chemical processes, transform crude oil. No longer will the refiner have to take what the crude has to offer; rather he will soon be able to have complete flexibility in securing just those end-products he wants, in the amounts he fixes, and with the chemical and physical properties desired, regardless of the type or nature of the crude oil used.

Building new refineries and equipping older ones for those new processes undoubtedly will mean an expansion program with relatively large capital investment in refinery construction spread over the next five to 10 years. How rapidly this program is carried out will depend to a large extent on the demand for the better products these processes turn out, particularly on the demand for aviation fuel.

### REFINERIES IN OPERATION IN THE UNITED STATES

January 1, 1933.....	372
January 1, 1934.....	454
January 1, 1935.....	435
January 1, 1936.....	422
January 1, 1937.....	423
January 1, 1938.....	431
January 1, 1939.....	435
January 1, 1940 (est.).....	445

**Motor Fuel.**—An increase in motor-vehicle registrations to 30,108,000, the first time this has passed the 30,000,000-mark, and generally better business conditions than in 1938, increasing the average consumption of motor fuel per motor vehicle, combined to bring a gain of 5.5 per cent in total domestic demand for gasoline. This was reflected in a 7.2 per cent increase in motor fuel production at United States refineries in 1939 to an estimated 596,111,000 barrels, an all-time record.

### MOTOR FUEL PRODUCED IN U. S. REFINERIES

(In Barrels of 42 Gallons)

Year	
1933.....	401,591,000
1934.....	416,932,000
1935.....	457,842,000
1936.....	504,811,000
1937.....	559,141,000
1938.....	556,012,000
1939 (est.).....	596,111,000

**Other Refined Products.**—Production of all major petroleum products

except residual fuel oil rose in 1939 to all-time peaks; production of residual fuel oil, though slightly below the 1937 record, was substantially above 1938. The estimated 162,480,000-barrel production of light fuel oil (gas oil and distillate) was a 7.1 per cent increase from 1938, while residual fuel oil production was up 4.3 per cent to 307,564,000 barrels. Similar increases are estimated for kerosine, lubricants, and other petroleum products.

### GAS OIL AND FUEL OIL PRODUCED IN U. S. REFINERIES

(In Barrels of 42 Gallons)

Year	Gas Oil and Distillate	Residual Fuel Oil	Total Fuel Oil
1933...	78,920,000	237,519,000	316,439,000
1934...	94,972,000	240,381,000	335,353,000
1935...	100,235,000	259,826,000	360,061,000
1936...	125,906,000	287,968,000	413,874,000
1937...	146,706,000	312,064,000	458,770,000
1938...	151,774,000	294,890,000	446,664,000
1939... (est.)	162,480,000	307,564,000	470,044,000

### MARKETING

#### Demand for Petroleum Products.

—As in production, new all-time records were set in 1939 in the demand for all major petroleum products except residual fuel oil which, however, bettered its 1938 demand. More motor vehicles than ever before were in use and, reacting to better business conditions and to the apparently illimitable urge to travel, each motor vehicle used more gasoline, on the average, than in any previous year. As a result the domestic demand for motor fuel increased to an estimated 552,000,000 barrels, an all-time peak and 5.5 per cent above 1938.

Increased use of domestic oil burners, 1,860,000 of which were in operation in United States house-heating plants at the end of 1939, accounts for more than 70 per cent of the demand for light fuel oil, which is believed to have totalled 133,775,000 barrels in 1939, an increase of 13.9 per cent over 1938. Effect of the weather, more nearly normal in 1939 after an extremely mild 1938, also helps account

## XII. MINERAL INDUSTRIES

for this large increase. Domestic demand for residual fuel oil, used by industry for heat and power, by public utilities, and by ships and railroad locomotives, increased to an estimated 325,384,000 barrels, 12.2 per cent more than in 1938.

### MOTOR FUEL DEMAND

(In Barrels of 42 Gallons)

Year	Domestic Demand	Total Demand
1933.....	380,494,000	409,815,000
1934.....	410,339,000	435,025,000
1935.....	434,810,000	465,423,000
1936.....	481,696,000	510,252,000
1937.....	519,352,000	557,658,000
1938.....	523,003,000	573,112,000
1939 (est.)...	552,000,000	598,163,000

### GAS OIL AND DISTILLATE FUEL OIL DEMAND

(In Barrels of 42 Gallons)

Year	Domestic Demand	Total Demand
1933.....	64,748,000	76,172,000
1934.....	74,824,000	89,330,000
1935.....	86,018,000	102,277,000
1936.....	102,757,000	123,205,000
1937.....	116,841,000	146,970,000
1938.....	117,449,000	147,090,000
1939 (est.)...	133,775,000	167,182,000

### RESIDUAL FUEL OIL DEMAND

(In Barrels of 42 Gallons)

Year	Domestic Demand	Total Demand
1933.....	258,957,000	268,096,000
1934.....	265,547,000	279,646,000
1935.....	280,695,000	293,394,000
1936.....	307,884,000	322,319,000
1937.....	325,514,000	340,818,000
1938.....	290,065,000	307,985,000
1939 (est.)...	325,384,000	343,238,000

**Foreign Trade.**—An even more favorable trade balance than in crude petroleum was estimated for refined petroleum products in 1939, with imports of 26,014,000 barrels, less than one-fourth the estimated exports of 117,336,000 barrels. The exports, an

### ESTIMATED NUMBER OF OIL BURNERS IN OPERATION

End of Year	Domestic	Industrial	Total
1933.....	913,200	48,600	961,800
1934.....	1,014,100	62,900	1,077,000
1935.....	1,155,000	77,900	1,232,900
1936.....	1,355,800	96,300	1,452,100
1937.....	1,553,800	115,700	1,669,500
1938.....	1,657,900	128,000	1,785,900
1939 (est.)...	1,860,000	143,100	2,003,100

all-time record, were an increase of 0.7 per cent from 1938, while imports fell off an estimated 6.7 per cent. Estimated export and import data for all refined products together are in the table below; exports of motor fuel, gas oil and distillate fuel oil, and residual fuel oil, may be figured from the demand tables in the preceding section.

### FOREIGN TRADE IN REFINED PETROLEUM PRODUCTS

(In Barrels of 42 Gallons)

Year	Exports	Imports
1933.....	70,143,000	13,501,000
1934.....	73,380,000	14,936,000
1935.....	77,557,000	20,396,000
1936.....	81,687,000	24,777,000
1937.....	105,600,000	29,673,000
1938.....	116,474,000	27,896,000
1939 (est.)...	117,336,000	26,014,000

### PRICES AND TAXES

**Prices.**—In both retail and wholesale commodity price indexes, petroleum products continued to maintain their position below all other commodities. The petroleum-product wholesale price level moved down 7 per cent in the U. S. Bureau of

### INDEX OF WHOLESALE PRICES

(1926 = 100)

(U. S. Bureau of Labor Statistics)

Year	Petroleum Products	All Commodities
1936.....	57.3	80.8
1937.....	60.5	86.3
1938.....	55.9	78.6
1939 (10 mos.)..	52.0	76.7

## PETROLEUM

Labor Statistics' index, to 52, a point 48 per cent below normal compared with the all-commodity index which was only 23.3 per cent below normal, and which declined only 2.4 per cent from 1938.

The retail price of gasoline, exclusive of taxes, in 50 representative United States cities, declined again in 1939 to 13.3 cents a gallon, a six-year low. The 1939 price was 65 per cent below the 1920 level, and was 37 per cent lower than the "normal" year 1923, compared to the National Industrial Conference Board's index of all retail commodities which, in 1939, was only about 15 per cent below normal.

Average tax per gallon, however, was 5.44 cents, equivalent to a sales tax of 40.9 per cent, and raised the gasoline price to the consumer to an average of 18.74 cents.

### MOTOR FUEL PRICES AND TAXES

Year	Average Retail Price	State and Federal Taxes	Average Total Cost per Gallon to Consumer
1933.....	\$.1241	\$.0541	\$.1782
1934.....	.1364	.0520	.1884
1935.....	.1355	.0529	.1884
1936.....	.1410	.0535	.1945
1937.....	.1458	.0540	.1998
1938.....	.1407	.0544	.1951
1939.....	.1330	.0544	.1874

**Gasoline Taxes.**—State, Federal, and local gasoline taxes took an increased levy from motorists in 1939, the state and Federal total collections reaching an estimated \$1,029,000,000, an all-time high and the first time these collections have passed \$1,000,000,000.

### GASOLINE TAXES PAID BY CONSUMERS

Year	State	Federal	Total
1932...	\$513,047,239	\$62,839,827	\$ 575,887,066
1933...	518,195,712	181,125,988	699,321,700
1934...	565,027,000	170,109,269	735,136,269
1935...	616,851,671	172,262,481	789,114,152
1936...	686,631,000	186,321,448	872,952,448
1937...	756,930,000	203,025,380	959,955,380
1938...	766,853,000	200,881,000	967,734,000
1939 (est.)	812,000,000	217,000,000	1,029,000,000

For the average motorist the cost of motor fuel, exclusive of taxes, has been reduced so far that the average annual consumption per motor vehicle in use, estimated at a new peak of 732 gallons in 1939, actually cost the motorist \$3.50 less than did the average 502 gallons he used in 1925. The 1939 average fuel bill for 732 gallons, exclusive of taxes, was \$97.36; in 1925, for 230 fewer gallons, the cost was \$100.85. The average tax bill, however, has increased almost four times in the same 14-year period; in 1939 it amounted to \$39.82, making the total fuel cost \$137.18, of which 29 per cent was tax.

### ESTIMATED ANNUAL COST OF MOTOR FUEL AND TAXES PER CONSUMER

(Based on Average Number of Motor Vehicles in Use Each Year)

Year	Annual Consumption per Vehicle (Gallons)	Cost of Fuel	Cost of Taxes	Total Cost to Consumer
1925...	502	\$100.85	\$10.59	\$111.44
1929...	619	110.92	21.67	132.59
1935...	677	91.73	35.81	127.54
1937...	721	105.12	38.93	144.05
1938...	706	99.33	38.41	137.74
1939 (est.)	732	97.36	39.82	137.18

**Other Petroleum Taxes.**—Government again increased its take from the petroleum industry and its customers, as taxes on the industry and its products reached a new all-time peak. Taxes totaled more than four times the industry's earnings and accounted for more than 10 per cent of all taxes levied in the nation. Including the \$1,029,000,000 gasoline-tax levy, petroleum taxes are believed to have reached \$1,335,000,000 in 1939, a sum nearly as great as the industry's total annual payroll. Preliminary estimates indicate that the petroleum industry's net earnings for the year 1939 were below even the reduced profits of the year 1938, and were only about one-fourth as great as the governmental take in taxes.



## XII. MINERAL INDUSTRIES

### PETROLEUM TAXES

Year	Total Taxes
1933.....	\$1,004,824,000
1934.....	1,046,149,675
1935.....	1,121,936,698
1936.....	1,183,147,498
1937.....	1,315,487,798
1938.....	1,286,114,473
1939 (est.).....	1,335,000,000

### PETROLEUM RESERVES

The annual inventory of known petroleum reserves by a committee of the American Petroleum Institute again reported at the beginning of 1939 a large increase in the "underground storage" of crude oil. The Jan. 1, 1939 total was 17,348,000,000 barrels, the highest inventory estimate in the industry's history. Time and again these annual inventories are misinterpreted to mean "all the oil left"; divided by the yearly consumption of crude oil, they are interpreted to mean that America has only enough oil for 10 or 15 or 20 years to come. These estimates warrant no such conclusions. They are an inventory of the oil in sight, in known fields and recoverable by present production methods, only. As new fields or new producing strata are found—each year they are being found through the industry's recent technological advances in exploration technique—the reserves are revised upward. New producing methods, assuring production of a greater portion of the oil in a field and even making it possible to reopen fields long since thought exhausted, are another fruitful source of additional reserves. Beyond these, the technological improvements constantly being made in petroleum refining each year are making it possible to manufacture more of the more essential products from each barrel of crude oil.

United States consumers repeatedly have been assured by the country's foremost scientists and geologists that there is enough oil for years to come and that there is absolutely no reason to fear exhaustion of petroleum. Viewed in this light, the reserve table below should be interpreted correctly as showing only the amount of oil in underground rather than above-

ground storage, not as "all the oil left."

### ESTIMATED PROVED U.S. CRUDE-OIL RESERVES BY STATES

(In Barrels of 42 Gallons)

State	Proved Reserves as of Jan. 1, 1938	Proved Reserves as of Jan. 1, 1939
Arkansas.....	192,101,000	188,246,000
California.....	3,063,142,000	3,188,763,000
Colorado.....	19,125,000	17,713,000
Illinois.....	40,884,000	242,847,000
Indiana.....	2,622,000	6,031,000
Kansas.....	601,317,000	613,230,000
Kentucky.....	38,366,000	37,545,000
Louisiana.....	713,434,000	1,040,256,000
Michigan.....	49,181,000	42,749,000
Montana.....	109,378,000	104,471,000
New Mexico.....	546,587,000	703,252,000
New York.....	60,535,000	40,490,000
Ohio.....	28,456,000	26,358,000
Oklahoma.....	1,212,252,000	1,162,370,000
Pennsylvania.....	287,886,000	200,460,000
Texas.....	8,247,928,000	9,447,764,000
West Virginia.....	28,152,000	24,468,000
Wyoming.....	265,922,000	261,133,000
U. S. Total....	15,507,268,000	17,348,146,000

### EMPLOYMENT AND PAYROLLS

Employment in all branches of the petroleum industry at the latest estimate totalled 1,006,052, with an annual payroll of approximately \$1,500,000,000, and with wages and working conditions in most branches much higher than the national average for all industries. Hourly and weekly wages in petroleum refining are higher than those in any other manufacturing industry reported by the U.S. Bureau of Labor Statistics. Wages in petroleum production also average close to wages in refining.

### EMPLOYMENT IN THE PETROLEUM INDUSTRY, 1937

Branch of Industry	Average Number of Employees
Drilling and production....	129,871
Contract drilling.....	16,000
Total natural-gasoline.....	10,529
Total pipe-line.....	29,599
Marine transport.....	12,000
Refining.....	98,451
Marketing.....	709,602
Total petroleum-industry employment.....	1,006,052

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

### PERIODICAL PUBLICATIONS

---

<i>American Gas Journal</i> 53 Park Place, New York City.	<i>Metals and Alloys</i> 330 West 42nd. Street, New York City.
<i>American Mineralogist</i> Menasha, Wis.	<i>Mining and Metallurgy</i> 29 West 39th. Street, New York City.
<i>Chemical and Metallurgical Engineering</i> 330 West 42nd. Street, New York City.	<i>National Petroleum News</i> 1213 West Third Street, Cleveland, O.
<i>Coal Age</i> 330 West 42nd. Street, New York City.	<i>Natural Gas</i> 4 West Seventh Street, Cincinnati, O.
<i>Engineering and Mining Journal</i> 330 West 42nd. Street, New York City.	<i>Oil and Gas Journal</i> 114 West Second Street, Tulsa, Okla.
<i>Fueloil Journal</i> 420 Madison Ave., New York City.	<i>Oil Weekly</i> 3301 Buffalo Drive, Houston, Tex.
<i>Iron Age</i> 239 West 39th. Street, New York City.	<i>Petroleum Engineer</i> 405 Tower Petroleum Building, Dallas, Tex.
<i>Metal Industry</i> 116 John Street, New York City.	<i>Petroleum World</i> Bendix Building, Los Angeles, Calif.
<i>Metal Progress</i> 7016 Euclid Ave., Cleveland, O.	<i>Steel Facts</i> 350 Fifth Ave., New York City.

### COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

---

AMERICAN ASSN. OF PETROLEUM GEOLOGISTS, Box 1852, Tulsa, Okla.	AMERICAN MINING CONGRESS, 841 Munsey Bldg., Washington, D.C.
AMERICAN GAS ASSN., 420 Lexington Ave., New York City.	AMERICAN PETROLEUM INSTITUTE, 50 West 50th St., New York City.
AMERICAN INSTITUTE OF MINING & METALLURGICAL ENGINEERING, 29 W. 39th St., New York City.	AMERICAN PETROLEUM INDUSTRIES COMMITTEE, 50 W. 50th St., New York City.
AMERICAN IRON AND STEEL INSTITUTE, 350 Fifth Ave., New York City.	AMERICAN ZINC INSTITUTE, 60 E. 42nd St., New York City.

## DIVISION XIII

### MANUFACTURES AND TRANSPORTATION

#### CONDITIONS IN MANUFACTURING

By L. SETH SCHNITMAN

CONSULTING ECONOMIST, NEW YORK

---

##### GENERAL

Few years in the annals of American industry have been so dominated by external political and international forces as the year 1939. It was not to be expected that these forces should fail to leave their mark. The wonder is that, regardless of domestic politics, war tensions, and ultimately war itself, industrial activity did rather the unexpected and gave as fine an account of itself as the most sanguine observer, mindful of the imponderables, dared to hope for at the beginning of the year.

As with 1938, the year was one of striking contrasts. Begun with a feeling that recession was in order, which was fulfilled, it ended with the prevailing opinion that recovery was here. Only time will tell for how long.

No recovery can be said to be real where 8,000,000 or 9,000,000 idle pairs of hands and billions of idle money are looking for profitable employment; where the national income is at least 12 per cent lower than in 1929 and on a per capita basis some 20 per cent below that level—no matter to what heights the industrial production index may have attained.

Great, to be sure, was the performance in 1939, with records shattered in the steel industry, in the output of electric power, in the production of aircraft, in sundry other industrial lines. Yet this makes only more challenging the problem of restoring equilibrium to the general economic structure wherein idle men and money can

be employed on a scale consonant with their needs. The more challenging is this now since those fortunate enough to be at work in our factories continue to experience an effective wage level higher than ever before while the earning power of money has been impaired by the easy credit policy of government.

Whatever the causes, there have come dislocations that promise to be a plague for years unless facts, not fancies, are soon faced. Nothing so disconcerts a people as a protracted period of poverty amidst plenty, of unemployment amidst productive occupation, such as have been witnessed in what some future historian of the 1930's may yet refer to as the Lost Decade.

##### INDUSTRIAL PRODUCTION

Excepting only the abortive pre-NRA boomlet in industrial activity in the spring of 1933, the extensive recovery in the latter half of 1939 was easily the broadest of any witnessed in so short a period in the entire decade of the 1930's. For some time to come economic historians may argue the causes and, upon analysis of precisely the same facts, ascribe to one or another force the credit for this phenomenon. Whether it be war or purely domestic causes, or more probably a synchronization of many forces tied to both, the fact of industrial recovery was indisputable.

From a low point of 92 on the seasonally adjusted index of the Federal Reserve Board (1932-1925 = 100) in

## CONDITIONS IN MANUFACTURING

May, industrial production marched, without interruption, to an index of 128 for December, an improvement of some 39 per cent or at a rate of better than 5 per cent per month. This accomplishment brought with it a new all-time monthly peak in the index, exceeding by a small margin the June, 1929 figure of 125; though even as to this performance it must be remembered that now our population is some 10,000,000 greater than it was then.

Despite the extensive recovery in the final seven months of 1939, the job of overcoming the weight of a receding tide of industrial activity in the initial five months of the year was great, so much so that the average level of industrial production for the year as a whole was only about 5 per cent higher than in the base period 1923-1925. No matter how one looks at 1939, industrial output only approximated the performance for 1936 and was almost 5 per cent below the 1937 level though it did record an advance of some 23 per cent over the 1938 volume. Looking further backward, though output in 1939 was virtually twice the level of the depression low recorded for 1932, it failed by some 12 per cent to attain the 1929 peak level, making no adjustment for population growth in the interim amounting roughly to 8 per cent.

To those who are still minded to regard the dynamic improvement in the final seven months of 1939 as a phenomenon of war, it should be stated emphatically that recovery, though interrupted, really started in mid-1938. Considered from that viewpoint the industrial revival from the 1938 low to the December 1939 peak was almost 70 per cent, though that brief period of 18 months was marked by a fairly sizable interruption in the forepart of 1939.

Though perhaps less spectacular, the final half of 1939 would doubtless have scored an advance without the incidence of war. This at least was the implication from the bettering alignment between the light and the heavy industries, between the consumers' and the producers' goods

lines, which was in evidence as early as the latter months of 1938.

Out of the recovery itself has grown up a worsened relationship that heralds trouble ahead for early 1940. The maladjustment between the consumers' and producers' goods industries is deepening once again, promising a nearby reversal of the advance in general industrial activity that will likely extend through most of the first half of the year. But from there onward there is gathering evidence of a resumption of the upward trend for the third or final rising phase of the current business cycle.

### CONSUMERS' GOODS

Running all the way from cotton consumption by textile mills to the production of cigarettes, from wool consumption to the output of work clothing, from shoe production to the output of rubber tires, activity of the consumers' goods industries showed much resiliency in 1939, particularly in the latter months of the year when all-time records in many lines were either broken or again approximated.

Hosiery production, rayon output, knit underwear, ladies' and men's wearing apparel, the output of rugs and felt-base floor-coverings, even furniture, pianos, and other so-called "heavy-tag" items participated in the general improvement over 1938. But great as were the gains in consumers' goods, in the aggregate they did not bulk as large as those in the producers' goods industries, notably in steel, copper, and shipbuilding.

More significant perhaps is the probability that most important lines of consumers' goods—certainly those for which demand may be said to be most elastic, which of course excludes manufactured foods—were, as 1939 ended, beginning to round out their own respective cyclical upswings forewarning an early reversal in activity.

### PETROLEUM AND REFINERY PRODUCTS

Expansion too was noticeable in 1939 in virtually all phases of the petroleum industry, with many new records in production and consumption, yet earnings for most of the



### XIII. MANUFACTURES AND TRANSPORTATION

large companies were disappointing and in the aggregate not only lower than in 1938 but by 50 per cent or more lower than the 1937 level of profits, chiefly reflective of an unstable price structure for most refinery items. Notwithstanding record-breaking consumption of gasoline, 1939 ended with gasoline prices to retail outlets at unsatisfactory levels despite intermediate brief periods of seeming firmness. Fuel oil prices, on the other hand, which suffered sharp declines in 1938 ended the year 1939 on a strong tone. Crude oil itself showed little changes in price during the year, except for relatively unimportant isolated instances, notably in Pennsylvania crude on which several price advances were posted.

On the demand side gasoline recorded an advance over 1938 of about 5 per cent; kerosene and fuel oil of about 10 per cent; and lubricating oils of almost 18 per cent. Gasoline and distillates scored an advance of more than 15 per cent. War had little noticeable effect on this improved demand, at least exports in the final four months of 1939 were hardly different from those of the corresponding four months of 1938. Yet it must be stated that such accelerated general domestic industrial activity as can be traced to the outbreak of hostilities abroad doubtless tended to increase the domestic demand for refinery products.

Continued efforts at proration and conservation as respects crude oil output failed to bring the desired balance between production and refinery demand largely because of spectacular flow of crude in Illinois, unaffected by conservation, with the result that the price structure for petroleum was revised downward in mid-summer. At the same time production was partially or completely shut in, in six producing states for a fortnight.

#### ELECTRIC UTILITIES

Again the electric utilities easily stole the show, scoring in 1939 still another record-breaking volume of power output, further evidencing that this basic industry is still under the influence of the growth factor. The

1939 output approximated 129,000,000,000 kilowatt hours, this in contrast with 115,000,000,000 in 1938 and the previous all-time high figure of about 120,000,000,000 k.w. in 1937. As in recent earlier years, the utilities were under public scrutiny though less fanfare of political antagonism was noticeable, least of all in mid-summer, when the Commonwealth and Southern Corporation sold the plants of its subsidiary, the Tennessee Electric Power Company, to the Tennessee Valley Authority. And because of record-breaking output of power and a seeming truce on the political horizon, electric utilities, as the year drew to a close, planned and undertook larger expansion and modernization programs with corollary gains in orders for electrical equipment.

#### RAILROADS

As if revitalized the railroad industry took on a new lease of life, for how long is a question, for at the year-end it was still plagued with many basic financial, political, and economic difficulties that can be solved only if traffic is sustained on a high plane over a much more protracted period than seemed likely as the year ended, war or no war. Yet it was encouraging to note that in the final four months of 1939 our railroads were called upon to move more freight than in the corresponding period of 1937 or 1938. And because this draft on the industry came at a time when its equipment to handle the increased traffic was inadequate, manufacturers of rail items were literally deluged with orders for new equipment of every complexion running all the way from rails to freight cars, from couplers to air-brakes.

The year ended with a net income for class 1 railroads of not far below \$100,000,000 as against a deficit of about \$123,000,000 in 1938. Carloadings approximated 34,200,000, an increase of about 12 per cent over the 1938 volume, with each quarter showing progressive gains over the corresponding quarters of 1938. But, as has been true over the years, little if any relief was afforded the rails to enable them to restore their income

## CONDITIONS IN MANUFACTURING

to a plane consonant with the overall investment that has been put into them, amounting in 1939 alone, in maintenance and equipment, to about \$135,000,000.

### IRON AND STEEL

Steel ingot production in 1939 amounted to almost 47,000,000 tons as contrasted with a total of a bit more than 28,000,000 tons in 1938. Shrouded in the 1939 figure, however, is the fact that in the final three months of the year all previous records of steel production were shattered, despite which the year's record failed to reach the 1937 figure of a little more than 50,000,000 tons.

The upturn began in May, being greatly accelerated in the final four months of the year as something of a seeming phenomenon of the war, though the actual placement of orders by belligerents was only nominal. As a matter of fact, more than war itself, it was the rapidly mending domestic demand that provided the fillip to steel production once important consumers had awakened to the folly of hewing too closely to a hand-to-mouth buying policy which had reflected itself in a dangerously low inventory position, made the more so by the uncertain effects of war on delivery schedules generally and on the price structure for steels.

During the initial quarter of 1939 the average rate of productive operations was 54.5 per cent of capacity. In the second quarter the average rate receded to 50.8 per cent of capacity. For the third quarter the ratio of operations advanced to an average of 62.2 per cent of capacity, while operations in the final quarter exceeded 91 per cent of capacity. In actual tonnage the output in the final quarter not only broke all earlier records but accounted for almost 35 per cent of the year's aggregate output. What reversal occurred would not be so significant were it not that in all this hectic activity evidences of unwieldy inventories in consumers' hands were relatively few at the year-end.

Besides the general improvement in industrial activity that had begun in May and the incidence of war on this

demand from September forward, the needs of the automobile, railroad, shipbuilding, and aircraft industries, to say nothing of a myriad of miscellaneous users, had much to do with the hectic activity that characterized the steel industry in the closing months of the year.

Naturally the increased rate of steel operations brought with it an expansion in employment. At the year-end some 550,000 hands were engaged at average hourly earnings higher than any in the history of the industry, higher by some 30 per cent than those prevailing in 1929. Further indicative of the quickening of steel activity is the fact that total payrolls in 1939 approximated \$810,000,000 for an increase of 35 per cent over the \$600,000,000 total recorded in the preceding year.

The year 1939 marked the practical completion of a long-range modernization program that began at the outset of the decade and which in cost approximated \$1,500,000,000, largely financed out of earnings. At the same time 1939 will be remembered as the year in which overhauling of pricing policies, especially as to the long-standing basing point system, began to bear fruit in terms of more equitable treatment to consumers.

Coincident with expansion in activity the year provided a corresponding improvement in corporate earnings, with the final quarter making the best showing. Yet to those who still believe that this basic industry is wallowing in fat, it is well to recall that for the entire decade of the 30's earnings averaged only 2.4 per cent per year on the entire invested capital, which by the end of the decade stood at about \$3,200,000,000, a decline of almost \$700,000,000 from 1929. Overall depreciation of some \$2,200,000,000 in plant account has occurred in the intervening years, in part offset by the long-range modernization program now virtually completed.

Despite sharp advances in raw materials in the early weeks of the war the steel industry reaffirmed prevailing published prices on finished steels for the final quarter and even for the first quarter of 1940.

### XIII. MANUFACTURES AND TRANSPORTATION

The year was marked by relative peace on the labor front, such strife as did occur being in large measure traceable to demands for the check-off and closed shops. At the same time the stature of the industry before government was materially enhanced by its deportment in the hearings before the Temporary National Economic Committee at Washington. Despite these considerations it is all but certain that steel productive activity in the early months of 1940 will suffer retrenchment, for economic reasons alone, forgetting the imponderables of war and a coming national election.

#### NON-FERROUS METALS

Deliveries of tin to consuming establishments not only exceeded substantially the total in 1938 but as the year drew to an end improvement in indicated consumption was so pronounced that it exceeded the relatively high corresponding levels of 1937.

Zinc production at primary plants too scored a substantial advance over the 1938 total, and at the year-end more retorts were in operation than at any recent comparable period.

Copper consumption took a marked step-up over the 1938 rate, coming within striking distance of the 1937 level. In the latter months of 1939 domestic production attained to practical capacity, yet there was nothing of what one could call a runaway price advance. More, the world rate of both production and consumption as the year ended was the greatest in history, largely to be sure because of demands of war and armaments, though sight must not be lost of the record-breaking demands from the electrical industry. At the same time stocks of copper in hands of world producers, computed on current world consumption, were at about as low an ebb as ever recorded. Production of brass pipe and tubes for plumbing uses broke all previous records.

Aluminum continued to widen its applications in industry in 1939, the amount taken by the aviation industry alone being double that of 1937, the previous peak year. Nickel and

lead, too, showed substantial gains in 1939 over the comparatively low levels of the previous year.

#### AUTOMOBILE PRODUCTION

To a sizable extent the spectacular reversal of trend in steel production in mid-1939 resulted from increased demands for automobiles and trucks. For 1939 as a whole, production of passenger and commercial vehicles amounted to 3,725,000 in the United States and Canada, an increase of some 40 per cent over the total for 1938. Indicative of the speed-up in automobile production was the record for the final quarter of the year wherein almost 1,150,000 units were built in domestic and Canadian plants which, except for the corresponding quarter of 1936, was the highest final quarter total in about 15 years.

Of the 1939 production total, 2,975,000 were passenger cars and 750,000 were commercial vehicles. Computed at wholesale values the year's combined volume amounted to about \$2,315,000,000, of which about \$1,825,000,000 represented the wholesale value of passenger cars and \$490,000,000 the value of commercial vehicles. This is to say nothing of the additional wholesale value of about \$1,285,000,000 representing the 1939 output of accessories, parts, replacement equipment, inclusive of rubber tires.

But for the strike in the Chrysler plants which, extending for 54 days, was the most protracted and costly of any strife ever to visit the industry, the year's productive record would doubtless have been much greater, though it must be recognized that part of the business lost to Chrysler because of the strike went to other producers.

Registration of motor vehicles in the United States reached a new high in 1939 of almost 31,000,000, an increase of about 2,250,000 over the 1938 figures.

On the earnings side of the industry, the report of the Federal Trade Commission issued during the year afforded much light, though the latest figures covered the year 1937. In that year, the report disclosed that net profits for all automobile manufactur-



## CONDITIONS IN MANUFACTURING

ers averaged but \$29 per car before the payment of Federal income taxes, in striking contrast with the average profit per car of \$55.30 in 1929. Significantly the Commission observed: "Consumer benefits from competition in the automobile manufacturing industry have probably been more substantial than in any other large industry studied by the Commission."

Since 1933 production costs have risen to new peaks, with raw materials on a pound-for-pound basis having advanced better than 25 per cent and hourly wage rates by some 55 per cent. Yet, despite these production cost advances, the average retail price of a standard body type, making no allowance whatever for the new improvements in the interim, is only little more than 20 per cent above the low average prices which prevailed in 1933. As is seen from the figures on profits per car, most of the higher costs have been absorbed by the manufacturers.

### AIRCRAFT INDUSTRY

Thanks in large measure to the war, first in prospect and then in reality, the aircraft industry began in 1939 to emerge from infancy into vivacious adolescence. Even increased commercial demands played an increasingly important role in providing the largest volume of aircraft production ever recorded. For 1939 the estimated shipment volume approximated \$225,000,000. More significant, the industry at the end of the year 1939 had a backlog of unfilled orders which exceeded \$600,000,000, not only an unexampled volume of forward business for 1940 to draw on but almost five times the backlog at the end of 1938. This virtually assures shipments in 1940 in excess of \$500,000,000, or more than double that for 1939, and at least four times the estimated shipments of 1938, amounting to \$130,000,000.

Of the backlog almost \$350,000,000 represented unfilled orders of foreign buyers of which Great Britain and France alone accounted for virtually \$270,000,000. Unfilled orders of the United States Army and Navy accounted for an additional \$225,000,000 with some \$30,000,000 more represent-

ing forward business from domestic air transport companies and other users.

Evidence that the aircraft manufacturing industry is growing up is further found in the employment figures. In 1939 some 60,000 persons were directly employed, a virtual doubling in two years, largely accounted for in the final half of 1939. Because of this spectacular growth the industry is now faced with the problem: What to do about new capacity? As 1939 ended, plant additions were planned by several important factories though caution prevailed because of the uncertainty as to what to do with plant if suddenly peace were to come. In part this problem will be met through financing mechanisms wherein new capital for expansion will take the form of equity or risk capital as differentiated from the fixed income types such as bonds and mortgages. In part some tax abatement or other governmental guarantees may be afforded to manufacturers who added to plant in order to be able to fill orders for the United States Government.

### CONSTRUCTION

Rounding out six years of consecutive annual improvement the construction industry in 1939 gave the best account of itself since 1930. No matter what statistical measure one may use, whether it be building permits, building contracts, or broad estimates of the Department of Commerce, the results were creditable enough though still miles away from the levels of the dizzy twenties and the heralded booms that have freely been forecast with each new year during the lost decade of the 1930's.

Using the figures of the F. W. Dodge Corporation, covering only the contract volume in the 37 states east of the Rocky Mountains, the 1939 total was about \$3,550,000,000, an increase of roughly 11 per cent over the total of \$3,200,000,000 for 1938. Back in 1930 the corresponding figures totaled \$4,523,000,000, while in 1928, the peak year, the volume was \$6,628,000,000.

Current long-standing distortions



### XIII. MANUFACTURES AND TRANSPORTATION

between private and public construction must be corrected before any really significant basis for a broad resumption of construction may be said to exist. In the ten-year period, 1920-1929, total construction, public and private, in the United States as a whole, inclusive of maintenance (Department of Commerce series), amounted to about \$117,000,000,000. Of this all-time peak for any decade, \$90,000,000,000 or about 77 per cent represented private construction and maintenance expenditures. In no year of that decade did private construction, inclusive of privately owned utilities, represent less than 71 per cent of the total.

In the ten-year period ended in 1939, construction totaled a bit under \$74,000,000,000. Of this amount private construction amounted to something more than \$43,000,000,000 and represented less than 60 per cent of the aggregate. Public construction in the 1920's totaled some \$27,000,000,000; in the 1930's it reached \$31,000,000,000. This can now mean only one thing: needed national defense excepted, growing public apathy to public works expenditures on the plane of the 1930's militates against any over-all increase in general public construction.

Against the 20-year history of public construction may be set the comparable record for private construction. In this instance the gain in the current decade for public construction of about 14 per cent is in striking contrast with the loss in private construction from the preceding 10-year period of in excess of 50 per cent; \$90,000,000,000 then, only slightly more than \$43,000,000,000 now. Only a restoration of the customary ratio of private to public construction can provide a truly sound base for continued general recovery in construction as a whole.

As was to be expected, gains in construction over 1938 brought with them collateral improvement for most lines of building materials, equipment and allied items, though manufacturers on the whole failed to show the same profits as those recorded for 1937 when construction volume was lower.

This phenomenon was in part due to rapidly rising production costs with only moderate rises in prices, manufacturers recalling vividly the severe chastening they received in 1937 by advancing too drastically the prices of their wares, and in part due to the big stick of anti-trust threats emanating from the inquiries of the Temporary National Economic Committee addressed to manufacturers, trade associations, and building labor unions, as well—on the whole a needed procedure in an industry that is as circumscribed by the archaic rigidities as is construction.

#### MACHINERY AND EQUIPMENT

With all of the gains in productive activity recorded in 1939 it was natural, in this machine age, to witness a collateral expansion in the demand for machinery and equipment of every description. Perhaps the most significant advances were scored by machine tools, jigs, fixtures, and dies for many of which new records were established in 1939. This is understandable enough on the evidence alone of the performance of the durable goods production index of the Federal Reserve Board, which in December not only exceeded the index of non-durable goods but attained to a level about even with its previous high figure recorded in mid-1929.

Electrical equipment enjoyed a rise in activity of some 30 per cent, with orders for motors and generators making a gain in dollar values over the 1938 total of about 50 per cent; industrial materials, transmission and distribution equipment, scored an increase of almost 55 per cent. Even unit sales of household electric refrigerators advanced by about 50 per cent, while combined unit demands for other major appliances, such as electric ranges, washing machines, water heaters, ironers, and vacuum cleaners improved by better than 25 per cent.

Reverting to industrial equipment again, large gains over the relatively depressed levels of 1938 were scored in the output of foundry equipment, automatic stokers, industrial trucks, overhead cranes, steel castings, malle-

## CONDITIONS IN MANUFACTURING

able castings, even steel barrels, with the result that manufacturers ended the year on relatively high order backlogs with which to assure fairly high operating schedules into the forepart of 1940.

### EMPLOYMENT AND WAGES

Perhaps the most outstanding fact of the 1939 recovery on the labor front was the strike which completely shut down operations in the plants of the Chrysler Corporation for 54 days. Except for this the year was marked with fewer labor disputes than was true in the 1936-1937 recovery period.

The march toward better times in 1939 brought with it a reduction in unemployment of perhaps 1,000,000 but there were no fewer than 8,000,000 unemployed at the year-end. Factory employment alone, averaged for 1939, was about 8 per cent higher than in 1938, but more significantly factory payrolls advanced about twice as much, indicative of a fuller work-week as well as of generally moderately higher wage rates. These percentages may be matched against an over-all improvement in industrial output of 23 per cent for it is such a comparison that provides the backdrop for the improved corporate earnings registered during 1939.

As has been the case for several years now, 1939 came no closer to a mending of the rift in organized labor; peace between the CIO and the AFL was apparently no closer at hand at the end of the year than it had been at the outset, with each seemingly digging in for a long siege, leaving to government and to industry the heritage of continuing uncertainty on a truly pressing problem that cries aloud for solution. More than recurring strife between labor and management, continued conflicts within the ranks of labor itself is an imponderable of deep meaning to all who are bent on restoring to our people the economic balance they justly deserve. Illustrative of this are the figures on man-days lost in 1939 because of labor disputes, many of which truly had their origin in the conflict between the CIO and the AFL. Some 18,000,000

man-days of lost work and consequent lost income were more than double the toll for 1938.

### INDUSTRIAL EARNINGS AND DIVIDENDS

Even without the incidence of war, corporate industrial earnings were destined to show large gains in 1939 over the depressed levels of 1938, for the records of the initial nine months of the year had in fact already assured it. Whether it be the war stimulus or no, the final quarter of 1939 brought such a sharp spurt in corporate earnings as to make the year as a whole the best of any since the great depression, excepting only those of 1937.

Perhaps the most significant advances in corporate profits were scored in the automobile industry, inclusive of equipment, where the total was virtually four times as great as in 1938. Other appreciably large gains were scored by the steel and chemical industries. Aviation companies, though still of less importance to the entire economy, more than doubled their earnings of 1938 and for the first time in history exceeded the aggregate earnings of so basic an industry as the manufacture of building materials. Of all major industrial groups only oil failed to show an earning rise over its total for 1938.

### CONCLUSION

Though new advances in science and technology as a result of continued organized research, which cost American industry some \$135,000,000 in 1939, provided much on which to base hopes of a better ordered way of life, this will not be attained unless somehow a means may be found for improving the humanities and restoring to our people the morale that for one reason or another has been shattered these last ten years. Besides new textile fibers, broadened uses for plastics and glass, new promise for the electrical horizon and the wonders of a widening vista of chemistry and chemurgy, a workable formula is needed to rid us from the poverty that still stalks the land. That this will be hit upon without attunement

### XIII. MANUFACTURES AND TRANSPORTATION

between social, economic, and political mechanisms is unlikely, the more so if the job is left to government alone. For when government presumes it as its sole duty, for whatever reasons, to provide such attunement, that's where real trouble begins. The more challenging is this to industry, since it is now apparent that the going high rate

of industrial activity at the end of 1939 can not be sustained throughout 1940, in the face of serious dislocations still persisting in the domestic economy, the uncertainties of war repercussions, and finally the imponderables tied to an impending national election of transcendent importance.

#### CONDITIONS OF INTERNAL COMMERCE

By ADA LILLIAN BUSH

MARKETING ENGINEER

##### BASIC PRODUCTION

Despite the absence of a normal seasonal expansion during the early months of the year and a noticeable contraction through April and May, industrial production for the first half of 1939 showed some improvement when compared with the first half of 1938 (see *THE AMERICAN YEAR BOOK*, 1938, pp. 488-490). Production activity in the United States, already in a recovery trend, rose sharply in September with the outbreak of war in Europe. During the 11 months of 1939 for which comparable statistics are available at this time, industrial output averaged 22.8 per cent above the average for the corresponding period in 1938 but fell below the 1937 average. Preliminary estimates for December indicate that production at the last week held just under the best level for the year, insuring for the final quarter of 1939 a total equal to that of the most favorable quarter in 1929.

##### INDIVIDUAL INDUSTRIES

Large orders resulted in a 20 per cent increase in the output of basic industries from August through December. Consumer goods and some major lines of equipment building shared the rapid expansion lead by basic semimanufactures. Steel, rayon, paper and paperboard, shipbuilding, automobile, machine tools, and aircraft were among industries reaching high rates of operation. Comparable averages for 11 months of 1939 show that steel ingot production was up 65

per cent from the 1938 level and was approximately 16 per cent above 1937. Textile production rose 25 per cent, bituminous coal 15 per cent, electric power production about 12 per cent, leather boots and shoes 8 per cent, while crude petroleum and flour millings rose approximately 2 and 4 per cent, respectively. Factory output in number of automobiles was 49 per cent above 1938. The dollar volume of construction contracts of all kinds was 13.9 per cent above the total for the preceding year but publicly financed awards dropped in October with indications for a fourth quarter volume much below the record for corresponding months in 1938. The volume of residential contracts for the 11-months period was 39 per cent higher than for 1938.

##### DISTRIBUTION AND TRADE

The general trend toward improved conditions in industry and business that began in the second quarter, followed by the abrupt September upturn already referred to, was accompanied by active purchasing over a wide range of raw materials and semi-finished and finished products. The level of freight traffic moved up gradually between May and August, then rose sharply, and by the third week in October had reached a peak that exceeded the 1938 peak by 18.6 per cent. On the basis of 11 months of each year, freight car loadings in 1939 were approximately 12 per cent above 1938.

Manufacturing inventories in Oc-



## CONDITIONS OF INTERNAL COMMERCE

tober were between 3 and 4 per cent higher than at the year's low point in August and between 3 and 4 per cent above the average for the preceding year. Wholesale stocks rose in the fall about 4 per cent above the midsummer low and were around 6 per cent higher than in the fall of 1938. While imports increased over the preceding year, the dollar volume of goods exported remained about the same notwithstanding important shifts in the direction of export trade. Sales of consumer goods exceeded sales for 1938 by about 20 per cent, but were below 1937. During the 11 months of comparison, the volume of retail sales was 8 per cent above the total volume for 1938. Rural sales rose 11 per cent in 1939 and department sales rose about 5 per cent above the record for the preceding year.

Best available preliminary reports on retail trade in the last month of 1939 indicate an approach to the highest levels since 1929. In general, however, consumption failed to keep pace with production. The short period of anticipatory buying based on expectations of war inflation had largely run its course by November. The high rate of production in December was maintained in the face of a falling off of incoming orders in the basic industries, and at the close of the year some accumulation of inventories was in evidence throughout the marketing structure.

### EMPLOYMENT AND PURCHASING POWER

Factory employment (11 months' record) was 7.7 per cent above 1938 but failed to reach the total for 1937. Factory payrolls, which in 1938 had declined from the previous year's record, achieved in 1939 a 16 per cent gain over 1938. Contrary to the customary seasonal decline, factory employment increased slightly in November. The number employed in factories during the latter part of 1939, as reported by the Government, was 1,500,000 more than the total for the corresponding period of the preceding year.

Income payments from productive activity in 1939 reached a total of

\$70,000,000,000, according to Department of Commerce estimates. While this was \$4,000,000,000 above the 1938 estimate, it was less by about \$2,000,000,000 than total payments for 1937. However, the flow of income to individuals in November approximated the 1937 average. In as much as the expansion in consumer incomes, as compared with 1938, was not accompanied by an offsetting rise in living costs the current year brought an appreciable gain in consumer purchasing power.

### PRICES, PROFITS AND FINANCE

Price movements through the summer contrasted with the general upward movement of industrial production. Between May and August prices continued the downward trend that had been in evidence for almost a year. Prices remained at low levels through August but spurted upward with the outbreak of war in Europe. Prices on industrial raw materials, farm products and foods rose rapidly in September with recessions already in evidence at the beginning of the fourth quarter. Fluctuations in October and November included a decline in prices of domestic agricultural products, wholesale commodity prices and in retail prices on staple goods. For the first 11 months of 1939 average wholesale prices were about 2 per cent lower than for corresponding months of 1938. Prices of farm products fell about 3 per cent, retail food prices declined 2.5 per cent, while the general average of retail prices showed little change from that of the previous year.

Business profits expanded to a marked degree in 1939, particularly during the late months of the year. The generally increased business activity was accompanied by an upward movement in railway operating income and some tendency toward encouraging commitments for capital expenditures by industry. Interest rates, after a brief rise in September, continued to reflect the extreme ease in the money market. Reported business earnings and dividend payments had little effect on the stock market. Stock prices continued through the



### XIII. MANUFACTURES AND TRANSPORTATION

closing months to fluctuate slightly in sensitive response to rumors centering around the European war situation.

#### THE OUTLOOK

Among the weaknesses in the situation at the year's end were the large number of persons still unemployed, while the national budget remains unbalanced as a result of continuous efforts to remedy this weakness, the inventories built up through a high rate of production during the last quarter, the absence of any immediate prospects for balancing a high rate of production by an equally high rate of consumption, a lack of confidence in continued earnings as indicated by reluctance on the part of business to risk large-scale capital

expenditures, and a prevailing consciousness of forthcoming disturbances characteristic of an election year.

An extension of the present trends, under the psychological influences of the war in Europe, fear of more war, speculations as to sudden peace moves and other possibilities relative to the European situation and foreign trade, together with domestic uncertainties centering around anticipated battling of political opponents, could make of 1940 either a boom year or a year of declining activity. Except for these intangible and unpredictable factors, it might reasonably be expected that the gains self-evident in this statistical summary for 1939 will be generally sustained during the new year, with probable recessions in the first quarter.

### THE UNITED STATES TARIFF COMMISSION

BY RAYMOND B. STEVENS

CHAIRMAN, THE UNITED STATES TARIFF COMMISSION

#### PERSONNEL

Raymond B. Stevens, Chairman  
Oscar B. Ryder, Vice Chairman  
Edgar B. Brossard  
E. Dana Durand  
A. Manuel Fox  
Secretary, Sidney Morgan  
New York Office—  
Room 712, Custom House  
Henry H. Waters, In Charge

#### EFFECT OF WAR ON COMMERCIAL POLICY

The Tariff Commission was established during the World War, and the preparation of this statement finds the Commission studying the disturbances created by the outbreak of another war in Europe. This war has already produced important changes in actual movements of trade and in commercial policies. A great war not only brings with it direct interference with the international movements of goods through blockades and destruction of shipping but it also changes the commercial policies of the belligerent countries and their affiliated

empires. The British and the French have within the last few weeks instituted controls of foreign exchange and of trade by taxation or in other ways. Some neutral countries have likewise adopted governmental control of imports, or have decreed that vital supplies shall not leave the country.

War conditions may very materially affect both the export and import trade of the United States. The Tariff Commission has already made a survey as to the sources from which this country draws its imports and as to the possible effects of war on its ability to obtain its requirements. The changes in world trade policies which have occurred since the outbreak of the war accentuate trends already manifest for at least two years.

By the beginning of 1937 the trade of certain countries was dominated, and that of other countries in considerable degree affected, by preparation for war. With the renewal of hostilities in the Far East in July, 1937, Japan's imports were rapidly re-

## THE UNITED STATES TARIFF COMMISSION

duced to war essentials and to raw materials for exportable manufactures to pay for war materials. War in Spain promoted war economy throughout the continent of Europe. Soon an armament race developed. Germany, Italy, and Japan, then engaged in extending their political and economic control over new territories, exercised complete control over their international trade, and countries with more liberal trade policies curtailed their own purchasing power by heavy increases in taxes for war preparations.

Apart from the influence of preparations for war, the three-year period which may be considered as having terminated with the actual outbreak of war witnessed divergent tendencies on the part of different countries. On the one hand, some countries adopted or intensified policies of national self-sufficiency or felt themselves driven to the establishment or the tightening of exchange controls. On the other hand, some countries somewhat reduced their tariff rates, by agreements or autonomously, or felt themselves able to mitigate or abandon exchange controls.

Broadly speaking, however, during this period most of the adjustments in commercial policy, other than those motivated by preparation for war, were minor. Although many trade agreements, including clearing and compensation agreements, were negotiated among the countries of the world, most of them were little more than renewals of older short-term agreements.

### REPORT ON EUROPEAN WAR AND UNITED STATES IMPORTS

With the outbreak of the conflict in Europe, the Commission began an analysis of the "Probable Effect of Hostilities on United States Imports." This report, which has been referred to above, covers all imported commodities in which the trade in recent years was valued at more than \$2,000,000 annually. It discusses the effects that the war may have on grades of goods, for which United economy should there be any cessa-

tion of or reduction in the present volume of trade in these goods.

The Commission believes this report to be of special importance since the major part of total United States imports consists of goods, or special grades of goods, for which United States consumption is supplied wholly or in considerable part by imports. Individual commodities have been examined to determine whether the foreign sources of current supplies are likely to be materially affected by the present hostilities and the possibility of obtaining supplies elsewhere or of using substitute commodities.

Since developments in the 1914-18 period are commonly regarded as a possible pattern for current developments in this country, an analysis of imports into the United States has been made in order to determine how far the current situation conforms to that of 1914. The analysis indicates far-reaching changes in both the United States and world economy and trade since 1914, and that for many commodities the effects of the present war, both in this country and abroad, will follow a far different pattern from that of the last war.

The data assembled in this report provide a basis of factual information which may be used in forecasting the effect that the present outbreak of hostilities in Europe may have on imports. The Commission is continuing its studies of this subject because changing circumstances will no doubt have an important bearing on imports.

### ADJUSTMENT OF COMMERCIAL RELATIONS

Among the events making for more friendly commercial relations among nations may be mentioned an agreement between the United Kingdom and Ireland, which terminated a trade war that had lasted since 1932; the action of the United States in extending to Australia the concessions already made to other countries, which had theretofore been withheld from that country because of discrimination against the commerce of the United States; and the trade

### XIII. MANUFACTURES AND TRANSPORTATION

agreements, both effective Jan. 1, 1939, between the United States and Canada and the United States and the United Kingdom, both covering a very substantial amount of trade. The agreement between the Soviet Union and Germany in August, 1939, was not merely of economic significance but had important political bearings.

In countries active in negotiating trade agreements, many clearing agreements have been renewed or extended and new clearing agreements have been made. Several countries have been moving from more general clearing agreements to more detailed compensation agreements. The policy of bilateral balancing of trade appears to have become more widely accepted in fact if not in theory. In 1939 Honduras repealed its tariff system in which the rates of duty applicable depended upon the balance of trade during the preceding year with the countries concerned; on the other hand, Costa Rica introduced such a system, and certain other countries in practice put more emphasis on bilateral balancing of trade.

In contrast with 1937 when in several countries the relaxation of exchange control might be noted, in 1938 financial and trading conditions in a number of countries became worse and exchange control stricter. Near the close of that year New Zealand introduced exchange control with a general licensing system. Austria, where exchange control had practically disappeared, was merged with Germany and made subject to complete control under a complicated

multiple-currency system. This system was later extended to Czecho-Slovakia. Elsewhere trends in 1938 were divergent, with a tendency, especially in Latin America, to relax the strictness of the controls.

The Oslo Agreement among the Scandinavian countries, Belgium, and the Netherlands, an agreement aiming to liberalize trade restrictions, was allowed to expire in 1938. Japan has intensified her efforts to restrict imports of articles which she can do without, and to dominate the economy of China, having extended the control of her armies over the entire coast line. Mexico reduced the rates of duty on a very extensive list of products in August, 1938, but few of the reductions exceeded the increases which had become effective about the first of the year, and the depreciation of the peso in the meantime had increased the difficulty of selling foreign goods in Mexico. Among the more extensive increases of import duties in 1939 were those of Australia, which has continued the process of widening the margins of British preference, of Belgium, and of the Netherlands. The last-named country has for the first time defined "moderate protection" as one of the aims of its tariff policy.

New Zealand has carried her preferential system to the extreme of prohibiting the importation of certain classes of goods unless they are of British production. India, however, has revised her agreement with the United Kingdom so as to reduce some of the margins of British preference.

#### TRADE AGREEMENTS CALENDAR

(November, 1939)

Public Notice of Intention to Negotiate

Country	Public Notice of Intention to Negotiate Issued	Latest Date for Submitting Written Statements	Opening Date of Public Hearings
Cuba (supplemental).....	Nov. 30, 1938	Dec. 24, 1938	Jan. 3, 1939
Belgium (revision).....	Aug. 16, 1939	Sept. 27, 1939	Oct. 9, 1939
Argentina.....	Aug. 23, 1939	Oct. 4, 1939	Oct. 16, 1939
Chile.....	Oct. 2, 1939	Nov. 11, 1939	Nov. 27, 1939
Uruguay.....	Oct. 20, 1939	Nov. 18, 1939	Dec. 5, 1939

# THE UNITED STATES TARIFF COMMISSION

## TRADE AGREEMENTS SIGNED <sup>1</sup>

Country	Signed	Effective
Cuba.....	Aug. 24, 1934	Sept. 3, 1934
Brazil.....	Feb. 2, 1935	Jan. 1, 1936
Belgium.....	Feb. 27, 1935	May 1, 1935
Haiti.....	Mar. 28, 1935	June 3, 1935
Sweden.....	May 25, 1935	Aug. 5, 1935
Colombia.....	Sept. 13, 1935	May 20, 1936
Honduras.....	Dec. 18, 1935	Mar. 2, 1936
The Netherlands, including Netherlands Indies, Surinam and Curaçao.....	Dec. 20, 1935	Feb. 1, 1936
Switzerland.....	Jan. 9, 1936	Feb. 15, 1936
Nicaragua <sup>2</sup> .....	Mar. 11, 1936	Oct. 1, 1936
Guatemala.....	Apr. 24, 1936	June 15, 1936
France and its colonies, dependencies and protectorates other than Morocco.....	May 6, 1936	June 15, 1936
Finland.....	May 18, 1936	Nov. 2, 1936
Costa Rica.....	Nov. 28, 1936	Aug. 2, 1937
El Salvador.....	Feb. 19, 1937	May 31, 1937
Ecuador.....	Aug. 6, 1938	Oct. 23, 1938
United Kingdom, Newfoundland, the British non-self- governing colonies and certain protectorates and pro- tected states and mandated territories.....	Nov. 17, 1938	Jan. 1, 1939
Canada (Second agreement) <sup>3</sup> .....	Nov. 17, 1938	Jan. 1, 1939
Turkey.....	Apr. 1, 1939	May 5, 1939
Venezuela.....	Nov. 6, 1939	Dec. 16, 1939

<sup>1</sup> A trade agreement with Czecho-Slovakia was signed on March 7, 1938 and became effective on April 16, 1938. By Presidential proclamation of March 23, 1939, the rates of duty proclaimed in connection with this agreement were terminated effective April 22, 1939.

<sup>2</sup> The reciprocal duty concessions and certain provisions of the agreement relating thereto ceased to be effective on March 10, 1938; remainder of agreement in force.

<sup>3</sup> The second agreement with Canada supersedes a previous agreement signed on November 15, 1935 and effective on January 1, 1936.

Even before the outbreak of war in Europe export duties and other restrictions on exports had been increased. Bounties on production or exportation became more numerous and trade continued to suffer from a multiplication of regulations relating to sanitation, marking, packing, standardization, and documentary formalities of every sort. In August, 1938, Mexico imposed additional export duties of 12 per cent *ad valorem* on products exported on more favorable terms because of the depreciation of the currency.

### FUNCTIONS OF THE COMMISSION

These important world-wide changes have been closely followed by the United States Tariff Commission in carrying out its primary function of reporting and analyzing them for the use of all branches of the government.

The changing commercial policies of foreign nations produced repercussions on the competitive situation

for American commerce, industry, and agriculture. The law creating the Tariff Commission charged it with the duty of investigating, in a comprehensive way, the commercial relations between the United States and other countries, and the effects of our customs laws and the administration of them on all phases of the domestic economy. In fulfilling this obligation the Commission has for many years acted as the investigative and advisory agency on tariff matters for the President and the Congress. From year to year, the currents of international trade shift and new problems arise, the emphasis of the Commission's work varying as conditions change.

When general revisions of the tariff have been undertaken, as in 1921-22 and 1929-30, the Commission has furnished full information on the matters under consideration. At certain other periods, the principal work of the Commission has been the administration of the "flexible tariff"



### XIII. MANUFACTURES AND TRANSPORTATION

(Section 315 of the Tariff Act of 1922 and Section 336 of the Tariff Act of 1930) under which rates may be changed by the President, in accordance with the difference in cost of production, at home and abroad, as found by the Tariff Commission. During one period, Section 3 (e) of the N.R.A. occupied much of the attention of the Commission. Under that section of the law, it was the duty of the Commission to make investigations upon request of the President, when he had reason to believe that imports were being entered in such volume, or under such conditions, as to threaten the maintenance of N.R.A. codes. During 1939 Section 22 of the Agricultural Adjustment Act, as amended, was applied, this section bearing somewhat the same relation to the agricultural program as Section 3 (e) did to the N.R.A. program.

Toward whatever immediate problems or measures the activity of the Commission is directed, the fundamental purpose is always the same; namely, to furnish accurate and comprehensive information to the President, the Congress, and other officials responsible for the determination of policy. To this end, the Commission maintains a trained technical and economic staff and has accumulated a fund of information which is constantly augmented both by research and by the maintenance of contacts with those actively engaged in commerce, industry, and agriculture.

#### PROGRAM OF RECIPROCAL TRADE AGREEMENTS

During the last five years, the principal instrument of the United States foreign commercial policy has been the program of reciprocal trade agreements. The work of preparing and negotiating these agreements has been carried on by interdepartmental committees, on which the Commission is represented. The large amount of data accumulated with reference to competition between products of American and foreign industry has enabled the Tariff Commission to make an important contribution. During earlier phases of

the program, the collection of such data occupied a substantial part of the Commission's time. The peak of the Commission's activity in connection with the trade agreements program was reached in 1938 when a trade agreement was negotiated with the United Kingdom and a second trade agreement with Canada. Following the completion of these two agreements, digests of trade information on the several hundred products on which concessions were made by the United States, were issued by the Commission, together with a general statement as to the trade between the United States and the other two countries, and a general summary and analysis of the two agreements. The digests and analysis of the United Kingdom agreement comprised eight multilithed volumes; those on the Canadian agreement four volumes. More recently the Commission has been engaged in similar work in connection with the completed trade agreements with Turkey and Venezuela, and the proposed agreements with Belgium, Argentina, Chile, and Uruguay.

The Commission has continued its assistance to the Committee for Reciprocity Information of which Oscar B. Ryder, vice chairman of the Commission, was appointed chairman when Henry F. Grady became Assistant Secretary of State.

The Commission issued, during the year, statistical tabulations of the imports from 11 countries with which trade agreements have been made, and material is also in preparation showing the influence of the trade agreements on the average *ad valorem* equivalents of the duties under the various tariff schedules, and under the tariff as a whole.

A new edition of *Changes in Import Duties Since the Passage of the Tariff Act of 1930*, issued in 1939, includes the rates under the agreement with the United Kingdom and the new one with Canada; a supplement shows the changes under the agreement with Turkey. This volume constitutes a ready reference to all the changes in rates since the Tariff Act of 1930.

## THE UNITED STATES TARIFF COMMISSION

### COTTON INVESTIGATION

The Commission made, in 1939, an investigation and issued a report on cotton and cotton waste under Section 22 of the Agricultural Adjustment Act, as amended, a section of the law not heretofore invoked. This section authorizes the President to direct the Tariff Commission to make investigations when he has reason to believe that imports into the United States are tending to render ineffective any program under the Agricultural Adjustment Act or under the Soil Conservation and Domestic Allotment Act. After investigation and public hearing, the Commission recommended that quota limitations be placed upon imports of cotton and cotton waste, in order to forestall defeat of the cotton program (including an export subsidy on cotton). A differentiation was made between the imports of short-staple cotton (under 1½ inches) and of long-staple (1½ inches or over), a larger quota being fixed for imports of the long staple because of the requirements of certain manufacturing industries for imports of that type. A quota was also fixed for the imports of cotton card strips, comber, lap, sliver, and roving wastes. The evidence did not warrant findings at that time with respect to a certain type of harsh or rough cotton, or with respect to cotton linters, or cotton wastes other than those mentioned above. The Commission is continuing its investigation of these products.

The President also directed the Commission to make an investigation of imports of manufactured articles wholly or in part of cotton, in as much as an export subsidy program for such articles has been adopted. The investigation is now in progress.

### INDUSTRIAL SURVEYS

The Commission has continued its program of industry surveys and has completed within the year the following reports: Incandescent Electric Lamps; Grapes, Raisins, and Wines; Starches, Dextrines, and Related Products; Glues, Gelatins, and Related Products; and a supplement to

the survey on Cutlery Products issued in 1938, the supplement being a survey of the pocket cutlery industry. These surveys make available to Congress, to persons in the industry, and to the general public comprehensive information which has been brought together by the Tariff Commission over a period of years. The interrelationships of the different branches of an industry are brought out, and a full analysis is given of problems of competition. Surveys now in progress include those on: Floor and Wall Tile; Cattle, Beef, and Canned Beef; Hogs and Hog Products; Silverware; and Razors and Electric Dry Shavers.

### TRADE DIGESTS AND COMMODITY SURVEYS

As a part of its current work, the Commission is constantly engaged in the preparation or revision of summaries of tariff information on commodities covered by the tariff act, each containing pertinent facts and statistics as to uses of the commodity; United States production, imports, and exports; tariff history; and competitive conditions. Drafts have been prepared for about 1,700 out of a probable 2,000 summaries, and the information accumulated is available at any time to the President, the Congress, and other government departments. A substantial part of the information has already been published in the form of trade digests and commodity surveys.

Of timely interest was the report on Trade with Germany, issued in April, 1939, soon after the Treasury Department's announcement of the application of the countervailing duty provision (Section 303 of the Tariff Act of 1930) to imports from that country. Statistics with comments are given relating to about 300 classes of commodities imported in large volume from Germany and the territories under her control. The report affords a basis for estimating the probable effects on trade of the application of these duties.

The Commission also has under way a study of fishery treaties and agreements of the United States, a

### XIII. MANUFACTURES AND TRANSPORTATION

study of Latin American Trade, a report on tariff boards and commissions in foreign countries, and a handbook on commercial and clearing agreements between the countries of Latin America on the one hand and the United Kingdom, France, Germany, Italy, and Japan on the other. A report will also be made on recent trends in the commercial policies of Germany, Italy, France and other countries with special reference to import quotas, exchange controls, and clearing agreements. The Commission has in the past published reports on the foreign trade of Japan, the last one having been issued in 1936. The material contained in the earlier reports is now being brought up to date.

Upon the outbreak of the European war, the Commission undertook a study of the probable changes in our import trade which might occur as a result of hostilities. This report comments on the situation of each of the important commodities making up our import trade and discusses potential sources of supply that may be drawn upon if the ordinary sources are cut off, as well as the possibility of making up any deficiency in imports by increasing the domestic output, or of substituting other products for them. Reference is also made to the experience with regard to many of the same products during the World War. A preliminary draft of this report was made available early in October to other departments of the government, and a revised edition was later distributed to the general public.

Prominent in United States commercial policy during the last few years have been the excise taxes levied on imports of a number of important commodities. The Commission prepared for the use of Congress and issued in multilithed form a report on "Imports, Exports, Domestic Production and Prices of Petroleum, Coal, Lumber, and Copper, together with Excise Taxes Collected Thereon." This report supplements and brings to date an earlier report released in May, 1937. The Commis-

sion also issued in 1939 a report on "Excise Taxes on Fats and Oils and Oil-bearing Materials."

Because of the many inquiries received with regard to imports and prices of sugar and the various measures adopted from time to time to control this product, including the quotas under the Sugar Act of 1937, the Commission issued, in 1939, a compilation entitled "Statistics on Sugar." This brought to date the tables which furnished a statistical background for the Commission's report to the President on sugar in 1934, made as a result of the investigation at that time under Section 336 of the Tariff Act of 1930.

The Commission as usual has made a report on the production and sales of synthetic organic chemicals in the United States. Such a report has been made annually since 1917, when it was started in the administration of Section 501 of the Revenue Act of 1916. That provision has been superseded, but because of interest in the subject and the importance of the industry the Commission has continued to collect and publish these data. The Commission also issued in 1939 a statistical analysis of miscellaneous chemical and medicinal products, dutiable under paragraph 5 and imported in 1937 through the New York Customs District.

By the provisions of Senate Resolution No. 160, passed Aug. 1, 1939, the Tariff Commission was directed to make a report by April 15, 1940, on the competitive situation with reference to wood pulp and pulpwood. The Commission had made a comprehensive report to the Senate on this industry in 1937. The principal changes that had occurred after that time were the reductions in United States exports to Japan, substantial additions to pulp-producing capacity in this country, a marked decline in pulp prices, and generally depressed conditions in the domestic industry. The outbreak of the war in Europe changed the situation radically; and after making a brief preliminary report to the Senate, the Commission decided unless otherwise directed by the Senate to suspend the investiga-



## THE UNITED STATES TARIFF COMMISSION

tion until more settled conditions prevail.

The Commission is frequently asked to furnish information concerning the control of raw materials, a matter of world-wide attention in the last few years and the subject of international conferences. To meet these requests, a bibliography of raw materials was prepared and issued by the Commission during the year.

### MISCELLANEOUS WORK OF THE COMMISSION

At all times, cooperation with other government departments has occupied a substantial part of the Commission's time. The Commission has cooperated with other departments which deal with international trade matters, through membership on various committees, such as the Executive Committee on Commercial Policy, the Trade Agreements Committee and its various subcommittees, the Interdepartmental Committee on Cooperation with American Republics, and the Interdepartmental Committee on Philippine Affairs. Information has been furnished to the Departments of Treasury, Agriculture, Commerce, and Labor on problems affecting our national economy, both international and domestic. Also, the Commission has furnished to the War and Navy Departments data on commodities essential to national defense.

The Commission has given attention to many aspects of a problem of great current interest; namely, trade relations with Latin America. Some of the Commissioners are on committees with reference to cooperation with the other American republics. A tangible evidence of cooperation in the past year has been the service of Commissioner Edgar B. Brossard, representing the Tariff Commission on the Interdepartmental Committee on Cooperation with the American Republics, and the lending of experts to certain South American countries. Commissioner A. M. Fox is serving

as the director of the Technical Advisory Mission now in Venezuela, assisted by Harold V. Fay of the Commission's staff. Harold D. Gresham has been loaned to Paraguay to make a study of the customs procedure and tariff of that country. The Commission has also assigned Clifton W. Housley to act as one of the advisers to those negotiating the trade agreement with Argentina in Buenos Aires.

The Commission is directing offices under the Work Projects Administration in three cities—Richmond, Va., New York City, and Washington. As a result of the work at these offices, the Tariff Commission has obtained valuable tabulations of a large amount of statistical data needed in its work.

Whenever Congress is in session, a large number of bills and resolutions relating to tariff matters are referred to the Commission for report, and members of the Commission's staff are frequently called into conference with committees or members of Congress to supply information. The Commission is called upon in this way not only for technical information and statistics of production, imports, and exports of many commodities, but for the interpretation of administrative regulations and an opinion as to the probable effect of proposed changes in such regulations, and for information on international trade in general and the commercial policies of foreign nations, as well as to the correct procedure for obtaining redress or relief in cases of destructive foreign competition. The Commission also answers many inquiries on similar matters from persons engaged in commerce or industry.

As the result of a law passed in 1939, the Tariff Commission as well as other agencies of the Government may not send through the mail free of postage any report or document (with certain specified exceptions) unless a request therefor has been previously received.



### XIII. MANUFACTURES AND TRANSPORTATION

#### ADMINISTRATION OF THE TARIFF LAWS

By C. A. FREEMAN

BUREAU OF CUSTOMS, TREASURY DEPARTMENT

##### BUREAU OF CUSTOMS

The administration of the tariff laws of the United States is vested in the Bureau of Customs, a unit of the Treasury Department. The functions of the Bureau are purely administrative. No quasi-legislative powers are assigned to it. It is not concerned with fixing rates of duty, a power primarily assigned to the legislative branch of the Government, though delegated to the President in a limited degree in recent years both by the flexible provisions of the tariff act and as a part of the reciprocal trade agreement program. The Bureau's decisions under the law are, in many cases, subject to review by two judicial tribunals, the U.S. Customs Court and the U.S. Court of Customs and Patent Appeals. The principal activities of the Bureau of Customs are the collection of revenue on imported merchandise, the supervision and examination of all vessels and vehicles engaged in foreign trade, the detection and punishment of violations of customs laws, the prevention or restriction of the importation of merchandise either absolutely or conditionally prohibited or limited, and the examination, appraisement, and classification of imports.

##### CUSTOMS COLLECTIONS

Aggregate collections by the Customs Service declined for the second successive year, totaling \$350,395,944 in the fiscal year 1939 compared with \$392,095,464 in 1938, a decrease of \$41,699,520 or 10.6 per cent. Of these amounts, \$321,409,995 and \$359,573,654 in 1939 and 1938, respectively, constituted actual customs revenue, while the balance represented chiefly internal revenue taxes on imported alcoholic beverages together with comparatively small collections of tonnage taxes, head taxes on immigrants, etc.

Customs receipts fluctuated dur-

ing the year within relatively narrow limits, the difference between the high and low month being less than for any other year of the past decade except 1936. The peak month, October, reflected the usual seasonal rise, the slightly lower peak in April being due to heavy importations of German goods to escape the imposition of countervailing duty, which was announced on March 18, 1939, and made effective April 23. As a result of this action, duties on German merchandise reached a total of more than \$5,600,000 in April, an amount larger than the aggregate for the four preceding months and representing 30 per cent of the total collections for the fiscal year on goods of German origin.

Only four of the 15 dutiable schedules of the present tariff act, those covering chemicals, tobacco, wool, and rayon, recorded an increase in collections, and each of these also showed an increase in the value of imports. The increased collections on items included in the wool schedule was due chiefly to larger importations of unmanufactured wool, which were abnormally low during the last half of the fiscal year 1938 and the first half of 1939. Rayon manufactures, of little importance either in value of imports or as a source of revenue, increased greatly in both respects. Revenue collected on agricultural commodities was \$13,069,727 less than in 1938 and only half that of 1937, although collections from this source continued to exceed collections under every other tariff schedule. Revenue collected on sugar which, prior to the reduction in the rates of duty in the Cuban Trade Agreement of 1934, exceeded that from any other source, declined for the second successive year. A larger yield both of cane and beet sugar grown in the United States in 1938 accounted for the reduced importations of this commodity from Cuba in 1939 and the re-

# ADMINISTRATION OF THE TARIFF LAWS

## VALUES OF DUTIABLE IMPORTS FOR CONSUMPTION AND DUTIES COLLECTED BY TARIFF SCHEDULES

(Fiscal Years 1938 and 1939)

Tariff Schedule	Value		Duties		Percentage Increase or Decrease (—)	
	1938	1939	1938	1939	Value	Duties
1. Chemicals, oils, and paints.....	\$ 55,475,355	\$ 57,368,627	\$ 19,111,740	\$ 21,199,485	3.4	10.9
2. Earths, earthenware, and glassware.....	31,425,090	25,632,715	14,849,480	11,144,248	-18.8	-25.0
3. Metals and manufactures	87,519,655	78,422,702	28,353,815	23,257,203	-10.4	-18.0
4. Wood and manufactures	16,340,747	15,131,852	2,736,283	2,216,492	-7.4	-19.0
5. Sugar, molasses, and manufactures.....	92,668,849	76,910,369	38,343,028	37,690,323	-17.0	-1.7
6. Tobacco and manufactures.....	32,281,061	37,686,597	22,859,323	25,709,004	16.7	12.5
7. Agricultural products and provisions.....	200,232,682	164,246,322	67,078,647	56,008,920	-18.0	-16.5
8. Spirits, wines, and other beverages.....	68,968,794	58,093,406	41,087,301	33,249,541	-15.8	-19.1
9. Cotton manufactures...	32,045,789	25,774,976	12,723,960	9,573,951	-19.6	-24.8
10. Flax, hemp, jute, and manufactures.....	60,282,274	52,046,383	14,730,639	11,546,278	-13.7	-21.6
11. Wool and manufactures	37,005,874	37,847,815	24,439,511	25,692,091	2.3	5.1
12. Silk manufactures.....	7,356,871	5,766,214	3,987,915	3,068,704	-21.6	-23.1
13. Manufactures of rayon or other synthetic textiles.....	4,897,922	8,654,998	2,248,238	2,793,879	76.7	24.3
14. Pulp, paper, and books...	13,776,661	12,031,449	2,975,167	2,403,766	-12.7	-19.2
15. Sundries.....	130,951,663	129,717,872	40,701,691	36,057,511	-0.9	-11.4
Free list commodities taxable under the Revenue Act of 1932 and subsequent acts, <sup>1</sup> dutiable under section 466, Tariff Act of 1930, etc.....	37,312,059	34,924,671	11,044,722	10,483,580	-6.4	-5.1
Total.....	\$908,541,346	\$820,156,968	\$347,271,460	\$312,094,976	-9.7	-10.1

<sup>1</sup> Taxes collected on dutiable commodities under the revenue acts and the Sugar Act of 1937 are included in appropriate schedules.

Note: The "duties collected" reported in this and in the following table are computed from the statistics of imports compiled by the Department of Commerce which are limited to commercial importations and are necessarily somewhat less than the entire total collected.

sultant smaller collections on the imported product.

**Commodity Revenue Trend.**—The downward trend in customs revenue from 1938 to 1939, which was recorded for most of the commodity groups, also appeared in the collections on goods imported from most of the important countries which supplied the United States with dutiable merchandise. The largest amounts of revenue were received from the products of the United Kingdom and Cuba (\$40,353,000 and \$37,869,000, respectively, in 1939). Although aggregate duties collected on the prod-

ucts of these countries were smaller by 6.2 and 4.7 per cent, respectively, than during the previous year, they were of greater relative importance than in 1938, their combined total constituting 25.1 per cent of the total for all countries in 1939 and 23.8 per cent in the previous year.

**Revenue Trend by Countries.**—Canada, Japan, and Argentina, however, declined both in absolute and in relative importance as sources of customs revenue. A 50 per cent decrease in imports of distilled liquors from Canada and the complete discontinuance of corn importations

# XIII. MANUFACTURES AND TRANSPORTATION

## VALUES OF DUTIABLE IMPORTS FOR CONSUMPTION AND DUTIES COLLECTED, BY COUNTRIES (FISCAL YEARS 1938 AND 1939)

Country	Value		Duties		Percentage Increase or Decrease (—)	
	1938	1939	1938	1939	Value	Duties
Europe:						
Belgium.....	\$ 39,252,735	\$ 41,573,794	\$ 8,389,233	\$ 7,995,736	5.9	-5.8
Czechoslovakia.....	31,237,842	16,409,178	14,398,542	6,345,507	-47.5	-55.9
France.....	42,972,428	44,265,236	17,464,168	18,128,118	3.0	3.8
Germany.....	50,042,745	54,991,905	17,792,933	19,070,521	9.9	7.2
Greece.....	11,779,091	13,616,745	7,448,588	7,677,600	15.6	3.1
Italy.....	34,501,786	32,952,913	15,748,784	14,327,842	-4.5	-9.0
Netherlands.....	22,193,808	20,909,955	6,839,357	6,761,640	-5.8	-1.1
Norway.....	7,943,597	8,594,989	2,853,800	2,904,529	8.2	1.8
Poland.....	14,481,844	13,287,565	2,582,639	2,478,226	-8.3	-4.1
Spain.....	8,378,488	7,730,277	2,935,835	2,817,881	-7.7	-4.0
Sweden.....	9,420,960	7,409,967	2,304,847	1,722,003	-21.4	-25.3
Switzerland.....	21,038,254	23,402,863	9,209,194	9,555,193	11.3	3.8
U.S.S.R. (Russia).....	7,692,375	6,986,297	2,559,549	2,102,125	-9.2	-17.9
United Kingdom.....	97,528,730	97,167,886	43,020,145	40,353,247	-0.4	-6.2
Other Europe.....	23,601,390	18,627,968	7,672,168	6,514,056	-21.1	-15.1
Total Europe.....	\$422,066,073	\$407,927,538	\$161,219,782	\$148,664,224	-3.4	-7.8
North and Central America:						
Canada.....	91,301,913	88,140,466	26,848,647	18,890,384	-3.5	-29.7
Cuba.....	96,931,323	77,127,750	39,735,280	37,869,352	-20.4	-4.7
Dominican Republic.....	2,374,860	1,963,335	2,370,102	1,946,523	-17.3	-17.9
Mexico.....	10,996,454	12,331,349	5,464,307	7,059,476	12.1	29.2
Netherlands West Indies..	5,056,311	6,866,661	1,187,828	1,626,563	35.8	36.9
Other countries.....	4,996,973	4,605,998	1,892,654	1,613,808	-7.8	-14.7
Total North and Central America.....	\$211,657,834	\$191,035,559	\$ 77,498,818	\$ 69,006,106	-9.8	-11.0
South America:						
Argentina.....	61,024,373	37,203,424	24,520,924	17,752,947	-39.0	-27.6
Brazil.....	11,917,928	10,318,205	3,179,144	3,446,774	-13.4	8.4
Chile.....	1,749,559	1,358,832	701,414	525,366	-22.4	-25.1
Peru.....	2,569,846	2,921,551	2,394,194	3,381,059	13.7	41.2
Uruguay.....	5,260,078	6,265,119	3,132,520	4,043,581	19.1	29.1
Venezuela.....	17,356,403	15,649,250	4,959,784	4,751,593	-9.8	-4.2
Other countries.....	6,276,757	6,252,492	1,118,367	1,227,240	-0.4	9.7
Total South America... ..	\$106,154,944	\$ 79,968,873	\$ 40,006,347	\$ 35,128,560	-24.7	-12.2
Asia:						
British India.....	40,471,218	34,144,818	7,750,880	6,884,325	-15.6	-11.2
China.....	27,131,612	22,061,353	12,146,289	10,263,978	-18.7	-15.5
Japan.....	53,055,300	36,509,742	25,887,528	16,392,578	-31.2	-36.7
Turkey.....	10,119,139	13,511,112	7,874,009	10,024,115	33.5	27.3
Other countries.....	15,365,677	14,939,878	5,691,523	5,615,638	-2.8	-1.3
Total Asia.....	\$146,142,946	\$121,166,903	\$ 59,350,229	\$ 49,180,634	-17.1	-17.1
Oceania—Total.....	8,555,981	9,814,441	4,239,341	6,087,804	14.7	43.6
Africa:						
Egypt.....	4,979,474	4,589,307	1,713,532	1,856,114	-7.8	8.3
Gold Coast.....	1,951,723	1,791,648	920,097	898,751	-8.2	-2.3
Union of South Africa....	3,777,576	675,781	1,151,070	325,593	-82.1	-71.7
Other countries.....	3,254,844	3,187,168	1,172,273	947,366	-2.1	-19.2
Total Africa.....	\$ 13,963,617	\$ 10,243,904	\$ 4,956,972	\$ 4,027,824	-26.6	-18.7
GRAND TOTAL.....	\$908,541,395	\$820,157,218	\$347,271,489	\$312,095,152	-9.7	-10.1

## ADMINISTRATION OF THE TARIFF LAWS

from Argentina was chiefly responsible for the diminished revenue from those two countries. No single commodity, however, caused the reduction in revenue from Japanese importations, almost all types of commodities being imported from Japan in smaller quantities than in 1938.

In contrast to the general trend, increased collections accrued in 1939 on imports from a number of widely distributed countries. Among these were Germany, France, Switzerland, Greece, Norway, Mexico, Netherland West Indies, Brazil, Peru, Uruguay, Turkey, Egypt, Australia, and New Zealand. Although the importation of German goods was negligible after the imposition of countervailing duty on April 23, 1939, the flood of imports immediately prior to that date caused the total for the year to be slightly larger than in 1938. Larger imports of unmanufactured wool accounted for increased collections on imports from several South American countries as well as from Oceania.

**Excess Duties.**—Some duties are collected in excess of the amount subsequently found to be actually due. The refund of such excessive duties amounted to \$4,122,800 during 1939 and \$5,401,753 during the previous year. Another type of refund, designated as drawback, is provided after the exportation under proper safeguards of merchandise previously imported. Such drawback payments

aggregated \$11,342,265 in 1939 and \$11,841,390 in 1938. Approximately 98 per cent of the total for each year represents drawback on exported merchandise manufactured from imported materials, among the most important of which were sugar, flaxseed, and copper.

### ENTRIES OF MERCHANDISE

For the first time in six years the number of entries of merchandise was smaller than during the previous years. The decrease was much smaller than in collections, illustrating a fact frequently observed that the actual volume of customs business fluctuates within much narrower limits than does the amount of customs collections. Fewer entries were made of each type except mail and appraisement, and the collections were smaller for each type except the two unimportant classes, appraisement and miscellaneous. The increase in the number of and duties collected on appraisement entries was largely due to the arrival of the household effects of European refugees, the value of such goods necessarily requiring an appraisal before duties could be determined.

### TRANSPORTATION TRAFFIC

**Motors and Trains.**—The number of automobiles and buses entering the United States aggregated 11,643,237, a decrease of 2.2 per cent from the previous fiscal year, and 33,519,803

	Number of Entries		Duties Collected		Percent of Increase or Decrease (—)	
	1938	1939	1938	1939	No. of Entries	Duties
Consumption entries.....	519,262	514,028	\$221,790,493	\$185,652,884	-1.0	-16.3
Warehouse and rewarehouse entries.....	68,880	64,112	.....	.....	-6.9	....
Warehouse withdrawals.....	382,882	372,938	124,790,621	124,612,662	-2.6	-0.1
Mail entries.....	584,764	590,976	3,298,083	2,890,832	1.1	-12.3
Baggage entries.....	714,586	710,005	1,109,580	1,009,053	-0.6	-9.1
Informal entries.....	234,786	206,322	915,312	794,930	-12.1	-13.2
Appraisement entries.....	18,169	25,348	208,128	272,448	39.5	30.9
Increased and additional duties..	.....	.....	4,690,070	3,858,272	.....	-17.7
Other.....	597,847	583,908	86,483	150,057	-2.3	73.5
Total.....	3,121,176	3,067,643	\$356,888,770	\$319,241,136	-1.7	-10.6



### XIII. MANUFACTURES AND TRANSPORTATION

persons entered the country by this means, a decrease from 1938 of 2.7 per cent. The number of passenger trains and other vehicles (including street cars) were also fewer in 1939, and there was an even greater decline in the number of persons using these media of transportation.

**Vessels.**—Contrary to the general trend, the 32,455 documented vessels arriving direct from foreign ports for which customs entry was made represented a small increase over the previous year, although fewer passengers arrived on them than during 1938. A sharp decline in the number of ferries and ferry passengers was due to two causes—the abandonment in July, 1938, of the ferry service between Detroit and Windsor, and the opening of the Thousand Islands Bridge on Aug. 1, 1938, which greatly reduced the ferry traffic in that vicinity.

**Airlines.**—For the eighth consecutive year, traffic on international airlines continued to increase. More than half of the passengers arriving by air debarked at Miami, Fla. Elsewhere the shift in traffic continued; further declines were recorded along the Mexican border despite an increase at Los Angeles, while the advance in the popularity of this means of transportation continued along practically the entire northern border.

#### LAW ENFORCEMENT

**Seizures and Collections.**—For the first time in eight years, seizures for the violation of customs laws were more numerous than during the preceding year. The total number (11,477) represented an increase of 8.7 per cent, while their value (\$1,873,130) was 161.6 per cent greater than in 1938. Collections resulting from attempts to evade customs laws amounted to \$2,030,875 in 1939 and \$2,539,162 in the previous year. Of these totals, \$987,773 in 1939 and \$1,465,148 in 1938 consisted of penalties for smuggling illicit liquor prior to the repeal of the Eighteenth Amendment.

**Narcotics.**—Not only were there many more narcotic seizures during 1939 than during any other year on record, but the quantity of narcotics

seized exceeded that reported for any year since 1929. Five seizures of smoking opium in 1939 were each larger than the entire quantity of that contraband seized during the previous year. The largest seizure occurred in New York in August, 1938, and comprised 8,666 ounces of smoking opium. Other important seizures of smoking opium consisted, one of 5,524 ounces at New York, two of 2,266 and 2,105 ounces, respectively, at Portland, Ore., and one of 1,666 ounces at San Francisco. Raw opium, except along the Mexican border, has been seized less frequently and in smaller quantities during the past few years than during earlier years.

**Smuggling Cases.**—Probably no case of smuggling attracted more attention than one which involved the wife of a judge, two moving picture and radio performers, and a carrier who posed as a member of a consular service. As the result of information received from a maid, customs officers in October, 1938, during a search of the judge's apartment, discovered in a hidden cabinet ladies' wearing apparel which, without customs examination, had been brought into the country a few days previously by the carrier who claimed diplomatic immunity. Further investigation of the carrier disclosed that under numerous aliases he had previously been imprisoned for mail fraud, had a long police record for various swindling transactions, and had on some of his previous trips abroad brought into this country jewelry valued at \$7,016, actually purchased by the moving picture and radio performers, and entered without payment of duty as his own personal property as a non-resident. All four offenders pleaded guilty. Since the judge's wife was a second offender and had paid a \$10,000 penalty for smuggling only a year before, she was sentenced by the court to three months imprisonment, and fined \$2,500. The carrier received a sentence of five years, while the owners of the jewelry paid fines of \$8,000 and \$10,000, respectively, in addition to the forfeiture value of the merchandise. Minor recoveries from

# ADMINISTRATION OF THE TARIFF LAWS

## COMMODITIES IMPORTED UNDER QUOTA PROVISIONS

(During quota periods ended in the fiscal year 1939)

Commodity	Quota Period	Quota Quantity	Unit of Quantity	Total Imports Within Quota Limitation	Per Cent of Quota Filled	Date Quota Filled
Saved timber and lumber, n.s.p.f., of Douglas fir or Western hemlock.....	Calendar year 1938	250,000,000	Board feet	172,301,698	68.92	....
Cattle, weighing less than 175 pounds each.....	Calendar year 1938	51,933	Head	40,943	78.84	....
Cattle, weighing 700 pounds or more each and n.s.p.f.....	Calendar year 1938	155,799	Head	124,920	80.18	....
Cattle, weighing 700 pounds or more each, other than cows imported specially for dairy purposes.....	1st quarter 1939 2nd quarter 1939 From Canada From other countries	60,000 51,720 8,280	Head Head Head	60,000 50,971 8,280	100.00 98.55 100.00	Feb. 2, 1939 .... Apr. 13, 1939
Cows, weighing 700 pounds or more each and imported specially for dairy purposes.....	Calendar year 1938	20,000	Head	7,431	37.16	....
Cream, fresh or sour.....	Calendar year 1938	1,500,000	Gallon	5,127	.34	....
White or Irish certified seed potatoes.....	12 months from Dec. 1, 1937	45,000,000	Pound	44,726,194	99.39	....
Red cedar shingles from Canada.....	6 months from July 1, 1938 Jan. 1, 1939	864,881 1,051,168	Square	864,881 1,051,168	100.00 100.00	Sept. 28, 1938 Apr. 14, 1939
Coconut oil from the Philippine Islands.....	Calendar year 1938	448,000,000	Pound	363,632,137	81.17	....
Refined sugar from the Philippine Islands.....	Calendar year 1938	112,000,000	Pound	111,998,645	99.99	....
Unrefined sugar from the Philippine Islands.....	Calendar year 1938	1,792,000,000	Pound	1,791,772,550	99.98	....
Yarns, twines, cords, cordage, rope, and cable, tarred or untarred, wholly or in chief value of manila (abaca) or other hard fiber, from the Philippine Islands.....	12 months from May 1, 1938	6,000,000	Pound	5,818,532	96.98	....

<sup>1</sup> The trade agreement with Canada concluded on November 17, 1938, provides for tariff rate quotas on imports of this class of cattle on a quarter calendar year basis, which quotas were allocated between Canada and other countries, effective April 1, 1939.

<sup>2</sup> The trade agreement with Canada, concluded on November 17, 1938, came definitively into full force on June 17, 1939, therefore, the import quota on this commodity ceased to be in effect thereafter.

### XIII. MANUFACTURES AND TRANSPORTATION

some other individuals were also effected as a result of the disclosures in this case.

#### IMPORT QUOTAS

The year 1939 witnessed a further expansion of the policy of limiting imports by the application of import quotas. The quotas now in effect are of two kinds, those which establish a fixed limit on the quantity to be admitted during any quota period and those which permit a specified quantity to be admitted free or at a reduced rate of duty, any excess being dutiable at the full tariff rate of duty. The absolute prohibition of imports in excess of the quota was applied during the fiscal year to only two commodities, cordage from the Philippines and red cedar shingles, the latter quota being discontinued on June 17, 1939, when the second Canadian Trade Agreement came definitely into full force. The quotas on unmanufactured cotton and on certain cotton wastes effective Sept. 20, 1939, were also of this character, as was the quota on silver fox furs and skins, including manufactures thereof, and live foxes, effective Jan. 1, 1940. (See table, p. 515.)

The second type of quota under which any excess over the stipulated quantity is dutiable at the full tariff rate is in more general use. This type of quota has been applied since Jan. 1, 1936, to a few products of the Philippines, refined sugar, unrefined sugar, and coconut oil, and was extended by the act of Aug. 7, 1939, to include, beginning Jan. 1, 1940, cigars, scrap and filler tobacco, and pearl or shell buttons. All quotas except those on Philippine products and on cotton and cotton waste have been established in connection with or as a result of trade agreements, usually on commodities on which a reduction was provided in the rates of duty.

The second Canadian Trade Agreement which became effective Jan. 1, 1939, continued four of the six tariff-rate quotas established under the earlier agreement, and set up three additional quotas. The trade agreement with the United Kingdom, which also became effective Jan. 1,

1939, provided a quota on edible molasses which met certain specifications; the agreement with Venezuela, effective, Dec. 16, 1939, set up a quota on crude petroleum and fuel oil, while the second agreement with Cuba, announced Dec. 23, 1939, established a quota beginning Jan. 1, 1940, on filler and scrap tobacco from that country.

Prior to April 1, 1939, there was no allocation of the quotas on any dutiable merchandise to any particular country, but since that date (as a result of a proclamation of the President of Feb. 27, 1939) the quarterly quota on beef cattle has been allocated between Canada and other countries. Three of the four quotas established since the close of the fiscal year, moreover, have provided for an allocation by countries. In the case of raw cotton and certain cotton wastes (proclamation of the President of Sept. 5, 1939, effective Sept. 20, 1939) this actually resulted in setting up 52 separate quotas. The quota on crude petroleum and fuel oil was allocated between Venezuela, Netherlands (including its overseas territories), Colombia, and other countries, and that on silver fox furs between Canada and other countries.

#### CHANGES IN PORTS AND STATIONS

Three new ports of entry and two new stations were established during the fiscal year 1939. The construction of a large mill at St. Petersburg, Fla., which used imported materials caused the establishment of a port at that location. Increased business in the interior of Alaska made it necessary to designate Fairbanks as a port. The completion of new international highways accounted for the port at Del Bonita, Mont., and the station at Connecticut Lakes, N.H. The opening of a bridge across the St. Lawrence River necessitated a customs station at Thousand Islands Bridge, N.Y. Ports of entry at Seward, Alaska, Gateway, Mont., and Fair Haven, N.Y., and stations at Machiasport, Me., Wallis Pond, Vt., and Alabaster, Mich., were abolished, and the station at Louisville Landing, N.Y., made seasonal.

## RAILROADS

### RAILROADS

By J. J. PELLEY

PRESIDENT, ASSOCIATION OF AMERICAN RAILROADS

#### GENERAL

At the close of 1938 railroads looked to 1939 with hope that the year would bring increased traffic volume and enactment by the Congress of constructive legislation designed to correct inequalities which have existed for some years past in the competitive transportation field. As to traffic, after a slow start and a period of sluggish hesitancy, freight volume increased sharply in the late summer and autumn months, reaching the highest point in a decade during October. As to legislation, the legislative mill ground slowly, with the result that the first session of the 76th Congress closed before the two Houses reached agreement on the so-called "omnibus" transportation bill.

#### TRAFFIC INCREASE AND RAILROAD EFFICIENCY

In many ways the outstanding feature of the year was the smooth efficiency with which the industry met the sharp increase in demand for their services during September, October and November. It was one of the sharpest increases in freight traffic volume in railroad history, and it set up a severe test of the adequacy and efficiency of present-day railroad facilities. Carloadings of freight in October were 25.7 per cent greater than in August and 42.3 per cent greater than in May, yet the rail carriers met this sudden upsurge in traffic volume with reserve capacity to spare. It was the industry's answer to unfounded criticisms leveled during recent years at rail operating methods and facilities. From a national standpoint, it was a reassuring performance, particularly in view of the course of events across the Atlantic.

Emil Schram, chairman of the Reconstruction Finance Corporation, in an address before the Traffic Club of Detroit on Dec. 13, 1939, commented on railroad performance during re-

cent months as follows: "Never has the country witnessed a finer transportation performance than in these recent weeks when with so little warning, the roads were called upon to throw their machinery into high gear. This was done without delay or hindrance. On the briefest notice, engines were taken out of 'white lead,' shops were opened up or placed on an increased operating schedule, and all of the demands of suddenly expanding traffic were met with orderly precision and effectiveness."

#### EQUIPMENT AND MAINTENANCE

Several months in advance of the peak loading period, railroads had taken inventory of their reserve capacity and had found a 25 per cent reserve capacity on the basis of then serviceable equipment units and a 50 per cent reserve capacity on the basis of reducing unserviceable units to the possible minimum. When it became apparent in September that loadings would go beyond earlier expectations and would approach the known capacity of available facilities, rail executives met in Washington, on Sept. 19, and announced that "there will be adequate transportation in the United States for any increased business now in prospect." By unanimous action the following resolution was adopted: "Resolved, that all roads take immediate steps to place their motive power and cars in shape to handle any probable increase in traffic."

Expanding maintenance programs, for both equipment and roadway, and increased orders for new locomotives and cars resulted from this program. On Dec. 1, 1939, there were 135 new locomotives and 36,198 new freight cars on order. It is significant that the number of new freight cars on order Dec. 1 was only a little less than the total number that had been installed during the preceding 23



### XIII. MANUFACTURES AND TRANSPORTATION

months. Commenting on this, Mr. Schram said in his Detroit speech: "This activity evidences quick realization of potential traffic requirements and exemplifies again the traditional reliability of the railroad industry."

#### OMNIBUS BILL

While traffic matters occupied the spotlight during the later months of the year, legislative matters were in the forefront during the earlier months. Early in the session of Congress which convened Jan. 3, 1939 a bill designated as H.R.4862, but which came to be known as the omnibus bill, was introduced in the House of Representatives. This bill restated or codified the Interstate Commerce Act and embodied many of the recommendations contained in the report of the Committee of Six rendered to President Roosevelt, at his request, on Dec. 23, 1938.

Extensive hearings were held on this bill by the House Committee on Interstate and Foreign Commerce. Meanwhile the Senate Committee on Interstate Commerce drafted a somewhat similar bill, designated as S. 2009, and hearings were held by that Committee on that bill. With some amendments, S.2009 was passed by the Senate on May 25 and sent to the House.

The House Committee, however, struck out all of S.2009, except the enacting clause, and substituted a bill which a subcommittee had prepared. This, with some amendments, passed the House on July 26. A conference committee of the two Houses was appointed to reconcile differences in the bills, but as the session closed shortly thereafter the conferees were unable to meet. It is expected that they will get together early in the 1940 session.

While the two bills are quite similar in purpose, in that both aim to treat transportation as a single, unified problem, they differ widely in form and in specific provisions. Both bills contain a declaration of policy which, except for the fact that air carriers are excluded, is comprehensive and constructive. Both bills

bring water carriers under Federal regulation for the first time. Both bills would change the present policy with respect to railroad consolidations.

The Senate bill uses the codifying principle, making each specific provision apply appropriately to all agencies of transportation, except airways. The House bill, on the other hand, retains the present set-up of the Interstate Commerce Act, Part I applying to railways, pipe lines, express companies and sleeping car companies, Part II applying to common and contract carriers on the highways, and a new Part III applying to waterways.

Aside from the form or method of approach, the Senate bill contains some provisions which the House bill does not, and *vice versa*. For example, the Senate bill provides for a Board of Investigation and Research to study and recommend on the transportation situation. The House bill has no such provision. On the other hand, the House bill contains such matters as regulation of forwarding companies, repeal of land grant rates and fares, R.F.C. loans, and allocation of bridge modification costs, none of which appear in the Senate bill, although most of them are treated in separate bills already introduced in the Senate.

Certain objectionable matters are in each bill, while each omits some matters which would be very helpful steps toward ultimate solution of the transportation problem. The so-called Wadsworth amendment to the House bill provides that the Interstate Commerce Commission shall permit carriers to reduce rates so long as such rates provide a compensatory return, taking into consideration overhead and other elements of cost. Aside from the fact that this injects the element of cost-finding into rate making, something that has never been successfully accomplished, it also indicates that subsidies, such as governmental expenditures on waterways and highways, are not to be included in such consideration of costs.

The repeal of the land grant rates and fares, provided for in the House

## RAILROADS

bill, carries the proviso that before any road can take advantage of such repeal, it must relinquish any claims it now has to public lands. Also, there is an objectionable provision with regard to export rates on agricultural products.

What form the bill will take when it returns from the conference committee, and in what form it will finally pass, remains to be seen. Probably it will fall somewhat short of eliminating all of the inequalities that now exist in the transportation field. On the other hand, there is a sufficient degree of similarity of purpose in the two bills to indicate that in principle the redrafted bill will be constructive in nature.

### OTHER RAILROAD LEGISLATION

Congress passed the Chandler Act and it received Presidential approval on July 28, 1939. This legislation, effective only until July 1, 1940, permits railroads not in receivership or trusteeship, but in temporary financial stress, to evolve a plan of adjustment, with the approval of 75 per cent of their creditors. One large railroad, the Baltimore & Ohio, already has evolved such a plan.

Congress passed a bill providing that the government should share in the cost of remodeling or reconstructing bridges over navigable streams, where railroads are required to make changes for navigation purposes. The President did not sign the bill, using the "pocket" veto to kill it. A similar measure is in the House "omnibus" bill.

Amendment to Section 77 of the Bankruptcy Act establishing a special reorganization court was passed by the Senate but the matter was not acted upon in the House.

Many other bills of direct or indirect interest to the railroads were introduced into the first session of the 76th Congress. Unless otherwise disposed of, these bills carry over to the third session beginning January, 1940.

### FAIR LABOR STANDARDS ACT

The minimum wage rate of 25 cents per hour fixed by the Fair Labor

Standards Act of 1938, effective in October of that year, automatically increased to 30 cents per hour in October, 1939. As provided for in the act, an industry committee, consisting of equal numbers of employers, employees and the public (12 in all), has been appointed by the Wage and Hour Administrator. This industry committee, after study and hearings, will recommend to the Administrator the "highest minimum wage rates for the industry which it determines, having due regard to economic and competitive conditions, will not substantially curtail employment in the industry." Such rate or rates can not, however, be higher than the statutory minimum of 40 cents per hour which becomes effective in October, 1945. The committee will probably begin hearings in the matter about the middle of February. Railways are not subject to the maximum-hour provisions of the act.

### RATES AND FARES

There were no important changes in basic freight rates during the year. The Interstate Commerce Commission granted certain increases in express rates early in the year. The Southeastern carriers returned to the 1½-cents per mile passenger fare on Jan. 15, while carriers in the Eastern District and the Pocahontas Region were permitted to extend for two months, or to March 24, 1940, the "experimental" period for the 2½-cents per mile fare.

With regard to freight rates, the Commission in a five-to-four decision handed down on Nov. 30, 1939, generally upheld contentions of southern governors that the South has been retarded economically by certain freight rate barriers. Certain adjustments in rates on a limited number of manufactured or processed articles were ordered, effective March 1, 1940. The question of interterritorial freight rate differentials was introduced into Congress, but that body took no action thereon.

Reversing a policy of long standing, the Commission ruled in I. & S. Docket No. 4645, involving the movement of blackstrap molasses in tank

### XIII. MANUFACTURES AND TRANSPORTATION

cars from New Orleans and Harvey, La. to Peoria and Pekin, Ill., that it is not unlawful for railroads to give shippers of train load or multiple quantities a preference in rates over shippers of single carloads.

The Commission on its own motion instituted several rate investigations during the year, including rates from Chicago and Mississippi and Ohio River crossings to points in southern territory, rates on new automobiles, etc.

#### RECEIVERSHIPS AND TRUSTEESHIPS

One Class I railway went into the hands of the courts in 1939, while none came out of receivership or trusteeship. Reorganization of bankrupt roads progressed slowly during the year, with the plan for only one company approaching the final stages. At the year's end, 31 per cent of the country's rail mileage was in the hands of the courts.

#### R.F.C. AND P.W.A. LOANS

The Reconstruction Finance Corporation loaned \$25,336,800 to railroads during the first ten months of 1939, while receiving repayments amounting to \$24,429,505. Total loans to railroads by the R.F.C., since organization in 1932 up through Oct. 31, 1939, amounted to \$650,437,461, of which \$218,936,179 had been repaid, leaving an outstanding indebtedness on that date of \$431,501,282. Of the \$200,974,500 disbursed to the railroads through P.W.A. loans, \$51,769,831 had been repaid to Oct. 31, 1939.

#### COMPETITION

In the competitive field, the situation was substantially unchanged, with buses, trucks, water and air carriers generally showing greater relative gains in traffic volume than did the railroads. According to figures published by the American Trucking Associations, truck loadings during the first ten months of 1939 increased about 25 per cent over 1938, which was about twice the rate of increase in rail loadings. Intercity buses increased their passenger business by about 11 per cent, compared with an increase of about 6 per cent for the railroads.

With the exception of the Federal Barge Lines, inland waterway carriers also will show substantially greater percentage increases for the year than will the railroads. Airway carriers also enjoyed substantial traffic increases.

Increased traffic volume of subsidized rail competitors means, in the final analysis, a heavier burden on taxpayers. On the highways, for example, the greater the annual mileage of buses and trucks the greater will be the need for highway maintenance.

#### FINANCIAL AND OPERATING RESULTS

The principal items of financial and operating results for the year 1939 are shown in the following table. For comparative purposes, figures for the years 1938 and 1930 are also given. The 1939 figures are preliminary and are subject to revision when final figures for the year become available.

Item	1939	1938	1930
<b>Financial:</b>			
Operating revenues (000,000).....	\$4,010	\$3,565	\$5,281
Operating expenses (000,000).....	2,925	2,722	3,931
Taxes (000,000).....	365	341	349
Net railway oper. income (000,000).....	590	373	869
Net income (000,000).....	85	Def. 123	524
<b>Traffic:</b>			
Freight carloadings (000).....	34,100	30,469	45,878
Freight ton-miles (000,000).....	332,500	290,084	383,450
Passenger-miles (000,000).....	22,900	21,629	26,815
<b>Employees:</b>			
Average number (000).....	989	939	1,487
Total compensation (000,000).....	\$1,858	\$1,746	\$2,551



## RAILROADS

Railroad operating revenues in 1939 were greater than in 1938 by 12.5 per cent, but fell short of the 1930 level by nearly one-fourth. Operating expenses were \$203,000,000, or 7.5 per cent, greater in 1939 than in the preceding year, but were about \$1,000,000,000 under 1930.

Taxes in 1939 averaged about \$1,000,000 per day, the total of \$365,000,000 for the year being greater than for any year since 1929.

After paying expenses, taxes, and equipment and facility rents, 14.7 cents out of each revenue dollar went through to net railway operating income, which compares with 10.5 cents in 1938, and 16.5 cents in 1930. Total net railway operating income for the year was \$590,000,000, representing a return of about 2¼ per cent on property investment. This was an increase of \$217,000,000 over 1938, when the rate of return averaged 1.43 per cent, but a decline of \$279,000,000 under 1930, when the rate of return was 3.28 per cent.

After interest and other fixed charges, a net income of \$85,000,000 was earned in 1939, compared with a deficit of \$123,000,000 in 1938, and an income of \$524,000,000 in 1930. Out of a total of 130 Class I companies, 57 failed to earn interest and fixed charges in 1939, and therefore were "in the red" for the year, while 73 earned an income over and above charges.

Railroads loaded 3,631,000 more cars of revenue freight in 1939 than in 1938, more than one-half of which increase was accumulated during the last four months of the year. Revenue ton-miles of freight moved during the year exceeded those of 1938 by 14.6 per cent, but were 13.3 per cent under 1930. Revenue ton-miles in October, 1939 were greater than in any month since October, 1939.

Revenue passenger-miles in 1939 increased 5.9 per cent over 1938, but declined 14.6 per cent below 1930.

### OPERATING PERFORMANCE

Railroad efficiency or performance averages were generally at peak levels throughout 1939. For the first ten months of the year, freight trains

averaged 16.7 miles per hour between terminals, a new record; gross ton-miles per freight-train hour averaged 32,704, a new record; net ton-miles per freight-train hour averaged 13,368, a new record; fuel consumption per 1,000 gross ton-miles in freight service averaged 112 pounds, a new economy record; net load per train averaged 807 tons, which was exceeded only in the corresponding period of the year of peak traffic volume, 1929.

These new high levels of operating efficiency enabled the carriers to handle the October traffic, the peak in a decade and only 16.7 per cent under October, 1929, with 30.7 fewer active freight cars. "Active" cars are serviceable cars in actual use, not including those classified as in bad order or "surplus." Compared with October, 1929, freight train speed in October, 1939 was 23.8 per cent greater, net tons per train were 9 per cent greater and net ton-miles per freight-train hour were 33.5 per cent greater.

If the carriers had performed in October, 1939, at October, 1929 averages, they would have needed 1,644,000 active freight cars. Actually they had only 1,367,000 active freight cars, or 277,000 less than 1929 performance averages indicated they needed. Yet, improved efficiency made this lesser number of cars quite adequate to handle the traffic, and there was a daily average surplus of 66,000 cars in serviceable condition. This does not include an additional 19,000 privately-owned surplus cars.

### THE OUTLOOK

The improved traffic situation during the last four months of the year brightened considerably the railroad outlook. While the pace slackened during December, traffic was still near the peak level for the depression period. It seems likely that this level will not be lessened, and may be increased, during the first part of 1940, although the European situation makes it difficult to gauge with any degree of assurance the forces which will be controlling. Also, prospects for constructive legislation, the "omnibus" bill, seem bright for 1940.



### XIII. MANUFACTURES AND TRANSPORTATION

Railroads stepped up both capital improvement and maintenance programs in 1939. Capital expenditures for the year approximated \$375,000,000, a figure exceeded only by 1937 in the period since 1930. Purchases of fuel, materials and supplies approximated \$750,000,000, which was exceeded only by 1936 and 1937 in the period since 1930. Maintenance expenses in 1939 amounted to \$1,237,-

000,000, an increase of \$141,000,000 over 1938.

Increased capital and maintenance programs by the railroads in 1940 will depend largely upon the trend of traffic and earnings during the year. The carry-over of such programs into 1940 was substantially greater than that carried over into either 1939 or 1938, and it may well be that 1940 will see such programs at or about the level of 1937.

#### HIGHWAYS

By THOMAS H. MACDONALD

COMMISSIONER OF PUBLIC ROADS, PUBLIC ROADS ADMINISTRATION,  
FEDERAL WORKS AGENCY

#### FEDERAL-STATE COOPERATIVE WORK

Cooperative highway construction carried on by the states and the Federal Government resulted in the improvement of 13,482 miles of highway, the elimination of 382 railroad grade crossings, and the reconstruction of 86 obsolete crossing structures in the fiscal year ended June 30, 1939. Outstanding features of the year's accomplishments were the large amount of work done in widening, straightening and otherwise modernizing main, through highways, the substantial progress made in eliminating hazards, at railroad grade crossings, and the completion of nearly 3,000 miles of secondary roads.

Small amounts of the emergency grants to the states to pay the full cost of highway and grade crossing construction were involved in the year's work, and small amounts were involved in approved projects at the end of the year. Regular Federal-aid funds for 1939 were \$125,000,000 for improvement of the Federal-aid system, \$50,000,000 for elimination of hazards at railroad grade crossings, and \$25,000,000 for improvement of secondary or farm-to-market roads. The states were required to match the highway funds but the grade crossing funds were available to pay the full cost of construction. Since road building is a continuing process,

these funds are but a rough indication of the amount of work done during the year. Many projects begun in one year are carried over into the following year for completion, so that portions of annual authorizations are used in the year following the year for which authorized. Actual payments of Federal funds to the states in 1939 amounted to \$186,718,071.

#### ORGANIZATION CHANGE

Effective July 1, 1939, the Bureau of Public Roads was transferred from the Department of Agriculture to the newly created Federal Works Agency, and the name changed to the Public Roads Administration. Its functions were not changed by the reorganization.

#### TYPES OF ROAD COMPLETED

	Miles
Graded and drained.....	1,392
Sand-clay, treated and untreated.....	983
Gravel, treated and untreated.....	4,578
Macadam, treated and untreated.....	532
Low-cost bituminous mix.....	2,568
Bituminous macadam.....	138
Bituminous concrete.....	646
Portland cement concrete.....	2,517
Block.....	50
Bridges and approaches (surfaced).....	64
Grade separations.....	14
Total.....	13,482

The 13,482 miles completed included 9,786 miles of rural portions of the Federal-aid highway system,

## HIGHWAYS

2,971 miles of secondary or feeder roads, and 725 miles of city streets.

The United States far surpasses any country in its program of highway-railroad grade-crossing elimination. Nearly 3,000 dangerous crossings have been eliminated in the Federal program since 1933. The primary purpose of this work is increased highway safety but the saving in time and motor fuel, made possible by eliminating delay and congestion at grade crossings, is proving to be of considerable importance.

### MODERNIZATION OF MAIN HIGHWAYS

The existing system of state and Federal-aid highways are now almost entirely surfaced as the result of continuous efforts during the past 26 years. Those sections of road improved in the past few years have the broad surfaces, easy grades, and straighter alinement needed to make them safe for the fast speeds of present-day vehicles. The older roads were designed for slower vehicles that have long since been scrapped. When they were built many states had laws prohibiting speeds greater than 30 or 40 miles per hour. Even had present developments been foreseen present standards could not have been adopted because of the necessity of spreading the limited funds over the improvement of a large mileage of road. The roads built have been good investments and have helped to generate traffic which contributes motor-vehicle revenues amounting to more than \$1,000,000,000 annually.

While much remains to be done in improving rural portions of the main highways to present-day standards, attention must now be concentrated on eliminating the serious congestion in and around the larger cities. Studies have shown that 90 per cent of the traffic on main highways approaching the larger cities wants to go through or to the very heart of the city, and only 10 per cent can be bypassed around the city. Limited access highways passing through cities and beltline highways around cities are needed, together with bypass routes around the smaller towns. The

high costs and delay in obtaining the necessary rights-of-way are the most serious obstacles that now retard the making of these needed improvements.

The Public Roads Administration is cooperating with the highway departments of 46 states in conducting highway planning surveys. Detailed information is being assembled on the condition of improvement of all rural roads, the traffic on each section of road, and highway income and expenditures. These data will be used in determining present and future road needs and the extent to which they can be met with available highway revenues.

Traffic on many of the main highways has increased to the point where more than two traffic lanes are required. Highways of four or more lanes are accordingly necessary, and they should be separated by a neutral zone along the center. Access roads should be carefully planned and limited in number. Crossings with other highways and railroads should be at different levels. The right-of-way should be wide enough for roadside planting and for special paths for pedestrians and bicyclists if needed.

Preliminary data on traffic flow collected in the highway planning surveys indicate that about 25,000 miles of new four-lane highway will be required in the next 25 years. The cost of right-of-way for these highways will be large. A first step in planning should be provision for acquiring the needed land at an early date so as to avoid increased costs resulting from future improvements and land speculation.

### ROAD CONSTRUCTION IN FEDERAL AREAS

During the fiscal year 1939 the Administration supervised the construction of 244 miles of road in public lands and Federal reservations, 413 miles in national forests, and 289 miles in or leading to national parks and monuments. Construction of roads through Federal areas has been a fixed policy for many years. The purpose is to give continuity to the Federal-aid and state highway

### XIII. MANUFACTURES AND TRANSPORTATION

systems and to provide access to recreational areas and places of historical interest. During the past few years there has been a great increase in the number of motorists visiting the scenic areas included in the national forests, parks, and monuments. In the western states roads in and adjacent to the national parks are constantly being improved. Outstanding in the East are the Blue Ridge Parkway and the Natchez Trace Parkway. The former will connect the Shenandoah and the Great Smoky Mountains National Parks, passing through Virginia and North Carolina. Approximately 134 miles of this parkway have been completed, and 170 miles are under construction. The Natchez Trace Parkway will pass through historical sections of Tennessee, Alabama, and Mississippi. Approximately 36 miles have been completed, and 11 miles are under construction.

#### HIGHWAY SAFETY

Motor-vehicle accidents in the United States during 1938 caused 32,400 deaths, a decrease of 7,200 from the previous year. That this 18 per cent decrease in fatalities was recorded in a year when the changes in gasoline consumption and motor-vehicle registrations were less than one per cent is a tribute to the unremitting efforts of highway-safety officials and to the splendid cooperation of the motoring public. The highways are continually being made safer and, with more stringent enforcement and widespread public education in highway safety, the accident toll can be still further reduced.

#### TOLL ROADS vs. FREE ROADS

The Federal-Aid Highway Act of 1938 directed the Administration to investigate and report on the feasibility of constructing and operating as a toll facility a system of six express highways, three running east and west and three running north and south. Fortunately, the information needed in a comprehensive study of this proposal was being made available by the highway planning surveys. Studies in 11 states revealed

that highway trips are predominantly of short length, the average trip length being less than 19 miles. Analyses of traffic on roads intersected by a line from Canada to Mexico through Idaho, Nevada, and Arizona revealed that only 2,532 passenger cars cross this line daily in travel between the three Pacific Coast States and points in all states east of Idaho, Nevada, and Arizona. Less than 800 vehicles were found to be traveling daily between the Pacific Coast States and all points east of the Mississippi River, and only 300 cars were traveling daily between the Pacific Coast States and states bordering on or near the Atlantic coast.

Because transcontinental travel is light, because trip lengths are short, and because a majority of car owners have low incomes and consequently would not or could not pay tolls, it was found that the traffic would not be heavy on the greater portion of a toll system of the kind studied. Careful estimates were made of traffic to be expected and of toll collections. Comparison of the toll returns with the annual cost of building and maintaining a system of six toll roads led to the conclusion that the system would not be self-supporting.

The Administration's report to Congress on this study, Toll Roads and Free Roads, has been published as House Document No. 272, 76th Congress, first session. This report presents in detail the analysis of the toll road proposal. In addition it presents a master plan for future highway improvements, which recommends that a 27,000-mile system of interregional highways be designated and improved complete with express routes through cities, beltline routes around cities, and bypassing small communities.

#### THE INTER-AMERICAN HIGHWAY

Over half of the projected Inter-American Highway from Laredo, Tex., to Panama is now improved with surfaces passable at all seasons of the year. When completed, this highway will extend 3,267 miles through Mexico, Guatemala, El Sal-

## THE MOTOR BUS INDUSTRY

vador, Honduras, Nicaragua, Costa Rica, and Panama. The present improvement is as follows: 1,123 miles of paved road, 669 miles of improved road passable at all seasons of the year, 653 miles of road passable only in dry weather, and 822 miles of trails.

The status of improvement of the Inter-American highway at the close of the fiscal year 1939 was as follows:

Type	Mexico	Guatemala	El Salvador	Honduras	Nicaragua	Costa Rica	Panama	Total
	Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles
Paved.....	825	....	72	....	16	47	163	1,123
All weather.....	156	273	48	30	17	....	145	669
Dry weather....	329	43	53	29	99	66	34	653
Trails.....	402	....	8	31	113	243	25	822
Total.....	1,712	316	181	90	245	356	367	3,267

Substantial progress was made during the past year, particularly in constructing bridges and in locating and planning links of the highway. The cooperative work of the United States has aroused a strong interest in Central American countries in the Inter-American Highway and several countries are planning, on their own

account, to extend or reconstruct sections of the route.

The first 765 miles of the route, from Laredo, Tex., to Mexico City, has been constructed by the Mexican Government and is now carrying large numbers of tourists from the United States.

In January, 1939, the Third Pan American Highway Congress, which was held at Santiago, Chile, took

steps to obtain concerted action by the several countries of South America in designating a Pan American Highway System to connect at Panama with the highway projected from the United States and to establish the necessary international highway connections throughout the southern continent.

## THE MOTOR BUS INDUSTRY

BY CARL W. STOCKS

EDITOR, *Bus Transportation*

### TRAFFIC VOLUME

Measured by passenger-revenue-per-road-mile the bus business during 1939 followed the climb of business in general toward higher levels, according to preliminary studies by the magazine *Bus Transportation* for the first nine months of 1939. Inter-city companies showed a 33.45 per cent gain over the corresponding period of 1938. City and suburban companies followed the rise of inter-city companies and were 32.25 per cent better off than in the corresponding nine months of the previous year. Companies operating purely local service within city limits likewise showed an increase of 3.20 per cent.

The same general trend upwards is reflected in the third quarter figures for 1939, from July to Sept. 30, as compared with third quarter results in 1938. Passenger revenues per road-mile of intercity companies in this quarter increased 27.13 per cent, while revenues of city and suburban companies gained 41.44 per cent, and purely local companies 4.88 per cent.

Just as economic experts can not put a finger on any one force that is causing general business to rise, neither can all the reasons for the increase in bus revenues be identified. All that can be safely stated is that the bus industry has enjoyed the gradual betterment of business and



### XIII. MANUFACTURES AND TRANSPORTATION

that increased revenues have come as a result. An important factor, without doubt, was the influence on bus travel of the World's Fairs in San Francisco and New York. Even more significant, perhaps, are U. S. Department of Labor figures showing that employment in factories increased by 700,000 in the third quarter of 1939 alone.

#### EQUIPMENT DEVELOPMENTS

Several outstanding equipment developments took place during the year. One of these was the introduction of a new type of spring, known as the gravity or torsional spring, which by using an entirely new principle in spring suspension gives a ride which, for comfort and freedom from jar, is said to be substantially equal to that of a passenger automobile. A second important development was the widespread introduction of the new type hydraulic transmissions and torque converters announced by several manufacturers in the closing months of 1938. In general, these new types of drive eliminate gear shifting and simplify driving of a motor bus to the point where the operator has only to step on the accelerator to go and on the brake pedal to stop. To the passenger the result is a smoother, more solid and comfortable ride. Another important move has been increasing adaptation by several manufacturers of diesel power to motor bus propulsion. Substantial operating economies are one direct result of this development, and once again the passenger is afforded the benefit of smoother and more effortless ride.

The air-conditioning of intercity and long-haul buses proceeded at a rapid pace during the year, this trend being applied not only to newly purchased equipment but also to hundreds of vehicles now in operation. While air-conditioning is particularly popular in the South and in the hot weather belts of the Far West, it is by no means confined to any one section of the country, but is more and more being applied to long-haul equipment in every quarter. Air-

conditioning of bus terminals and waiting rooms likewise is becoming almost a "must" with the leading bus companies. Few new terminals of the major type are erected without air-conditioning, and many of the older buildings have been adapted to offer the bus traveler this last word in hot-weather convenience.

Many other equipment refinements of a lesser nature have been announced. All of them represent the resolve of bus operators and manufacturers alike to meet the demands of modern travel, to equal or surpass the features offered by competing services, and to provide solid reasons why the public should use the public bus carrier in preference to the private car.

#### BUS OPERATIONS

At this time it is too early to say whether purchases of new motor buses in 1939 will equal 1937's record-breaking total of 18,234 new buses delivered, but to date deliveries are running well ahead of last year, and there seems every possibility that the 1937 record will be topped.

The latest available figures show that the bus industry operates a total of 132,600 vehicles, representing 51,500 buses operated by common carriers and 81,100 by school transportation systems and other private non-revenue carriers.

The common carrier division of the bus industry is represented by 4,007 companies, of which 2,848 are intercity carriers, 746 are city carriers, and 413 companies operate in sightseeing and other miscellaneous forms of common carrier service. The intercity and long-haul carriers operate approximately 20,000 buses, the city carriers 29,200 buses and the sightseeing and other miscellaneous carriers about 2,300 buses. About 358,000 miles of highway are covered by intercity routes, 27,812 miles of streets in cities are used by local routes, and there are 26,000 miles of sightseeing and other miscellaneous routes.

Although numerically greater, the non-common carrier phase of the industry is far less important from the

## THE MOTOR BUS INDUSTRY

standpoint of investment and service to the public. This phase of the bus industry is represented largely by 80,100 buses operated by or for public schools, school districts, colleges and other educational institutions. These school vehicles operate over 1,225,000 miles of route during the 200 days of the school year and carry approximately 3,400,000 children daily. Also in the non-common carrier group are about 1,000 vehicles operating in miscellaneous non-revenue service, such as apartment house buses, hospital vehicles, hotel buses and the like.

### PASSENGERS AND REVENUE

During 1938 passengers carried by common carrier buses totalled 3,965,020,000. Of these, 3,249,120,000 were city passengers, 712,390,000 were intercity passengers, and about 3,510,000 represented people who went sightseeing or on other miscellaneous bus trips.

The revenues of the bus companies during 1939 totalled \$465,900,000, representing \$222,610,000 by the local carriers, \$234,510,000 by the intercity and long-distance carriers and about \$8,830,000 by sightseeing and other miscellaneous carriers. Investment in the bus industry totals approximately \$1,000,000,000, most of which has been put into rolling stock or into terminals, garages and other equipment essential for the operation of the service. Including the value of franchises and other rights, the valuation of the bus industry as a going concern would, of course, be considerably higher.

### INCREASE IN TAXES

The tax bill of the bus industry has increased to alarming proportions during the past few years, causing authorities to express the well-founded apprehension that further increases in the tax burden may force drastic curtailments to a service which quite obviously has become a public necessity, and one to which the public certainly is entitled. Even in 1932 the average intercity bus company paid \$1,201 per bus operated annually in taxes, a figure which was con-

sidered excessive at that time. And yet by 1938 this had grown to \$2,114 per bus per year. For city companies the 1932 tax average per bus operated was \$676 annually, a figure which by 1938 had grown to \$1,062 per bus. Plotted against revenues the averages show that, for the year 1938, 10.09 per cent of gross revenues went for taxes in the case of intercity operators, and 11.40 per cent of gross revenues went for taxes in the case of city companies.

### FEDERAL REGULATION

The long distance carriers are beginning to realize some of the benefits resulting from the Federal interstate regulation which became effective four years ago with the passage of the motor carrier act of 1935. The interstate motor carrier does now have a certain amount of redress in cases where unfair competitive practices are being followed, and in many instances the Motor Carrier Bureau has stepped in and used its police powers to good effect, both for the protection of the industry and the public. Compliance with the act has brought many troublesome problems, not the least of which was the enormous amount of paper work companies had to undertake in order to comply with the regulations of the Motor Carrier Bureau. Naturally enough, companies now are becoming more or less familiar with the routine involved. Interpretation of the act and of the powers of the Bureau seem to be proceeding along sound lines.

### CHEAPER BUS TRAVEL

There can be no doubt that the intercity bus traveler gets more for his dollar today in the way of comfort and convenience than ever before, while still enjoying the lowest rates of fares ever offered in the history of transportation in this country. Rarely does the long distance bus traveler of today pay much over a cent and a quarter a mile for safe, comfortable and speedy transportation that would have been beyond the wildest dreams of ten years ago, and which in many respects is super-

### XIII. MANUFACTURES AND TRANSPORTATION

ior and, certainly more carefree, than travel by private automobile.

Twenty-five years ago the nickel fare was almost a universal rule on local street car lines. With the advent of the automobile, and particularly in the post-war period, street railway companies found themselves involved in a desperate struggle to maintain a satisfactory financial condition in the face of rising costs and increasing competition. Fare increases were resorted to, with the result that the five-cent fare pretty much passed out of the picture and six, eight and even 10 cents became more common. During recent years, however, there has been an increasing realization that the average person is unwilling, or unable, to pay more than a nickel for his local ride and that, in the long run, the lower rate of fare will earn a greater return for the company. The result is a definite trend toward lower fares in city service.

With each passing year an ever greater number of street railway properties find themselves unable to support the enormous overhead, investment charges and upkeep represented by a street railway system. This is particularly true when a decrepit and worn-out railway system

is faced by the necessity of rehabilitating its service. Such considerations, coupled with the decided preference shown by the public for highway vehicles, have brought a continued and ever-increasing trend toward the substitution of motor buses for street railway lines. Latest statistics show that close to 600 cities in this country, with populations of 10,000 or more, now are served entirely by motor bus. In the majority of these cities a one-time railway has been abandoned.

#### OUTLOOK

Improved business conditions, if they are realized in 1940, are bound to have a good effect on both city and intercity carriers. The two World Fairs—if they are continued—undoubtedly will help swell long-haul business, and an even more important factor is likely to be the complete cessation of European travel due to war conditions, with the likelihood that travelers will turn to the United States for their enjoyment. In the long run, however, it will be the general business health of the country which determines 1940's results, and at the present moment the outlook gives reason for optimism.

### COMMUNITY TRANSIT

By JOHN A. MILLER

EDITOR, *Transit Journal*

#### GENERAL

Community transit in the United States experienced a more satisfactory year in 1939 than had been experienced for some time past. The total number of passengers carried increased by about 2½ per cent to a figure of approximately 13,000,000,000. Fares remained virtually unchanged. Hence the gross revenues of the transit industry increased in the same ratio as the riding to a total of about \$763,000,000. Hourly wage rates rose moderately, the net change being an increase of about 1 per cent. Total wage costs increased more than that, however, due to the establish-

ment of vacations with pay on some properties and various other changes in working conditions. To handle the greater volume of riding it was necessary to provide a somewhat greater amount of service than in the preceding year. Because of the higher wages and the greater volume of service there was an increase of two per cent in operating expenses, to a total of approximately \$594,000,000. The aggregate effect of these factors was an increase of \$7,000,000 in the transit industry's net revenue before payment of taxes. Higher taxes absorbed part of this gain, but the showing for the year as a whole

## COMMUNITY TRANSIT

was substantially better than for 1937 or 1938. Improvement of physical plant went forward at an accelerated rate. Altogether a total of nearly 5,000 new transit vehicles were bought during the year just ended. On account of the purchase of this large amount of new equipment the capital expenditures of the industry in 1939 were about 20 per cent larger than in the preceding year.

is only about 20 per cent below the high figure for the year 1929, which corresponds almost exactly with the decline in general business and industrial activity compared with that year. Moreover, transit riding and automobile registrations declined together in 1938 and increased together in 1939. From this it is evident that the growing use of private automobiles does not seriously di-

### SUMMARY OF TRANSIT OPERATION IN THE UNITED STATES

	Operating Revenue Jan. 1-Dec. 31	Passengers Carried Jan. 1-Dec. 31	Miles of Electrified Track † as of Dec. 31	Miles of Trolley Bus Route as of Dec. 31	Miles of Motor Bus Route as of Dec. 31	Number of Passenger Cars as of Dec. 31	Number of Trolley Buses as of Dec. 31	Number of Motor Buses as of Dec. 31
1890†	\$ 90,617,211	2,023,010,202*	8,123*	0	0	32,505*	0	0
1902	247,553,999	4,774,211,904*	22,577*	0	0	60,290*	0	0
1907	430,687,858	9,583,081,000	34,382*	0	0	70,016*	0	0
1912	602,511,704	12,285,342,000	41,065*	0	0	76,162*	0	0
1917	763,325,092	14,726,914,573	44,835*	0	0	79,914*	0	39
1922	1,014,727,485	16,161,846,851	43,932*	22	685	77,301*	28	370
1927	1,084,439,961	16,855,435,276	41,967	31	18,007	70,309*	29	8,854
1932	745,323,819	11,745,985,108	34,742	276	26,604	64,585	285	16,693
1933	675,710,574	11,050,400,000	33,973	378	24,061	61,413	395	16,309
1934	710,374,526	12,103,200,000	32,028	467	24,933	58,225	448	17,411
1935	718,756,945	12,201,402,000	30,612	589	26,520	54,204	648	19,100
1936	765,756,000	12,984,842,000	29,319	850	27,717	51,730	1,154	22,104
1937	779,153,000	13,261,860,000	27,684	1,184	30,155	48,501	1,662	25,614
1938	744,091,000	12,663,167,200	26,185	1,474	32,042	45,466	2,002	26,477
1939	763,000,000	13,000,000,000	26,060	1,694	34,846	43,176	2,203	29,524

\* U. S. Census.

† Does not include electrified track of trunk line railroads doing exclusively long haul business.

# Includes cable and animal traction lines.

# Not available.

### RIDING AND REVENUE

The improvement that took place in 1939 in riding and revenue demonstrated again that the most important influence affecting conditions in the transit field is the degree of general business and industrial activity rather than the competition of the private automobile, as has sometimes been supposed. At the present time the total number of passengers being carried by all forms of transit facilities in the United States is substantially greater than it was before the advent of the automobile. In fact it

minish the need for community transit service.

Not all forms of transit service, however, shared equally in the improvement made in 1939. The electric surface railways, which once enjoyed a virtual monopoly of public passenger transportation in urban areas, have been declining in importance in recent years, although they still remain the most important single factor in this field, handling about 50 per cent of the total volume of business. Subways and elevated railways carry about 17 per cent of the total, mo-



### XIII. MANUFACTURES AND TRANSPORTATION

tor buses about 28 per cent, and trackless trolleys or trolley buses, about five per cent. Numerous substitutions of buses or trolley buses in place of street cars were made in 1939, some involving entire systems in the less populous communities.

#### REHABILITATION OF RAIL LINES

Energetic efforts have been made in recent years, however, to check the decline of the electric surface railway through a program of equipment modernization. To this end more than 1,100 new streamlined street cars have been purchased by transit companies in 13 cities in the United States and two in Canada. They are Atlantic City, Baltimore, Boston, Chicago, Cincinnati, Los Angeles, New York (including Brooklyn), Philadelphia, Pittsburgh, St. Louis, San Francisco, Washington, Toronto and Vancouver. The great majority of these cars are of the light-weight, fast, silent design brought out in 1936 by the so-called "Electric Railway Presidents' Conference Committee." Among the cities which bought new equipment of this type during 1939 were Pittsburgh, 100 cars; St. Louis, 100 cars; and Washington, 34 cars.

#### PROGRESS IN RAPID TRANSIT

Expansion of rapid transit facilities has proceeded rather slowly during recent years due to the heavy expense involved. At present only three cities in the United States—New York, Philadelphia and Boston—have extensive systems including both elevated railways and subways. Chicago's rapid transit facilities are confined to an elevated railway system, but a new subway is under construction. When completed, it will provide 7.7 miles of double parallel tunnels through the heart of the downtown district of the city connecting with the existing electrified lines at outlying points. Completion of the project is scheduled for 1940. Construction of a subway is in progress under Sixth Avenue in New York. When completed this will form part of the city's Independent Sub-

way system. An order was placed during 1939 for 125 cars for operation on this line.

Besides the subway and elevated systems in the four cities already mentioned there are services which are essentially of a rapid transit character at Cleveland and San Francisco. The last mentioned, which began operation Jan. 15, 1939, connects San Francisco with Oakland and other nearby cities by way of the 8¼ mile San Francisco-Oakland Bay Bridge. It provides faster and more direct service for the residents of the East Bay district, permitting them to board their commuting trains and travel without changing across San Francisco Bay in 20 to 30 minutes less time than was formerly required by the combination of electric railway and ferry service. This has proved very popular with the public, the number of passengers carried being substantially in excess of the original estimates.

An outstanding event of 1939 in the field of recent transit equipment was the placing in service of a new type of light-weight, streamlined, three-body articulated car by the New York Rapid Transit Corporation. This car is designed for use on either subway or elevated railway lines. It incorporates the latest methods of airplane construction in the use and assembly of aluminum alloys. Its trucks are modeled after the design developed by the Electric Railway Presidents' Conference Committee embodying extensive use of rubber springs. A particularly interesting feature of this vehicle is that air conditioning is used for the first time in the rapid transit field.

#### TROLLEY BUS EXPANSION

Continued expansion of trolley bus operations was a notable feature of transit developments during 1939. Altogether a total of approximately 500 new vehicles of this type were purchased by the transit industry. Practically all of these vehicles were for expansion of service so that the total of 2,000 trolley buses in operation at the beginning of the year was increased to more than 2,500. Among

## COMMUNITY TRANSIT

the cities which adopted this type of transit service during 1939 were Denver, Ft. Wayne, Ind., Wilmington, Del., and Seattle. In the last mentioned city the transit modernization program involves complete abandonment of street railway service and establishment of more than 100 miles of trolley bus route with 235 vehicles, supplemented by a smaller number of motor buses. This will give Seattle the second largest trolley bus system in the United States, being exceeded only by that of Public Service Coordinated Transport of Newark, N.J. Wilmington has also abandoned all street railway service and will depend upon a combination of trolley buses and motor buses.

At the close of 1939 there were 64 cities in the United States and two in Canada with trolley bus systems. Nine of these are cities of more than 500,000 population, 31 between 100,000 and 500,000 population, and 26 under 100,000 population.

### MOTOR BUS OPERATION

Ten years ago the transit industry in the United States was operating approximately 11,000 motor buses, but there were only 19 cities of more than 25,000 population in the country where transit service was provided exclusively by bus. At the present time the industry has more than 26,000 buses, and there are 167 all-bus cities with 18 more where the service is provided by a combination of motor buses and trolley buses. Conversely there are only 184 cities of 25,000 population where transit service is provided in whole or in part by electric railways as compared with 360 cities ten years ago.

The trend toward bus operation has been most marked in the smaller cities. All of the cities of more than 500,000 population in the United States have retained electric railway service, although all of them have

also adopted the bus to a greater or less extent. Among the cities between 100,000 and 500,000 population, 60 have retained electric railway service as compared with 20 which rely entirely on buses and trolley buses. In cities below 100,000 population the change to highway vehicles has been particularly striking. In that group of cities only about 100 now have electric railways as compared with about 175 which rely entirely on motor buses and trolley buses.

The number of cities which have no local transit service remains very small. Among the 376 cities of more than 25,000 population in the United States there are at present only seven without transit service. This is virtually the same number which were without transit service 25 years ago. The figure changes a little from year to year as transit operations are established or abandoned, but there is no indication of any substantial increase in the number of cities in this group.

### THE OUTLOOK

From indications of increased general business and industrial activity during the coming year, an increase in transit riding and revenue may be anticipated. Trends in operating expenses will probably be upward. Wages may be forced higher by a rising cost of living. Operating supplies and materials are virtually certain to increase in price. The time and extent of these changes, however, can not be foreseen with accuracy. Modernization expenditures will almost certainly be increased. Recent surveys show that the industry has been getting along of late with a bare minimum of up-to-date equipment, and a substantial amount of equipment buying will be necessary to maintain the physical plant in a satisfactory condition.

## XIII. MANUFACTURES AND TRANSPORTATION

### MERCHANT MARINE

By PETER BAIN

CONSULTING NAVAL ARCHITECT

#### MERCHANT SHIPPING UNDER WAR STRESS

During 1939, particularly the last quarter when three European powers were making targets of merchant vessels of all types and tonnages, commercial shipping throughout the world can not be said to have prospered or to have acquired marked prestige in its more strictly technical and operative phases. Broadly speaking, however, there was achievement both spectacular and unpretentious, the more notable aspects of it being credited to a widespread anticipation of war-emergency need involving co-operative service with naval craft, or purely commercial employment subject to war hazards in addition to those of normal seafaring expectation and experience. Toward the end of the year commercial overseas transportation was faced with narrowing margin of safety, due to the rapid expansion of combat areas and to the mines adrift from mine fields and others indiscriminately sown. In the interval, however, back to the beginning of the war, nations that had declared their intention of pursuing a strictly neutral policy had been studying the prospects of their possible embroilment and in certain instances had taken steps to minimize such a contingency.

The United States speedily set its house in order, its main program centering in the Neutrality Act of 1939 passed in special session of Congress. Aside from the blighting effects of the war on all neutral merchant shipping, with respect to the United States, the Neutrality Act of 1939 imposed not a few more or less oppressive restrictions affecting service activity and merchant marine expansion. While it is still too close to its inception to estimate with any degree of accuracy the ultimate effect the Neutrality Act will have on our merchant marine, it is a matter of record that the

ports of call of more than 90 ships responsible for a gross revenue in excess of \$50,000,000 per year fall within the proscribed combat area. Some of these vessels will find temporary employment in other directions as some had already done, but it was considered doubtful that there would be found sufficient trade anywhere in the world to employ all of them in sustained regular services. Other neutrals as well are actively scouting for opportunities to secure new trade openings for idle ships, and the belligerents themselves are striving to the fullest extent possible to maintain prewar trade services.

In view of the foregoing, prospects for the United States merchant marine establishing new trade and trade routes are not as glamorous as they appeared at first sight. Disposal of a goodly number of our old merchant vessels to buyers abroad constitutes another phase or beneficial aspect of the Neutrality Act development. In the event that some such opportunity materializes, it seems reasonable to expect that rather better prices would be obtainable than those ruling on a run-of-the-market basis. In December it was reported that Great Britain was seeking purchase of a fleet of American cargo carriers, even old stagers of about 7,500 tons each. No number of ships was indicated. The withdrawal of so many of our merchant vessels from their regular services and their transfer to indefinite periods of lay-up was of concern to the 4,000 to 6,000 employees involved. Respecting them, the Maritime Commission had in mind their admission to its training schools. The training system in these schools has been in operation upward of a year. The Maritime Commission hopes to develop a merchant marine personnel capable of discharging the responsibilities for operating the various units



of the new fleet as they pass into service.

On the heels, so to speak, of two neutrality proclamations on Nov. 4, President Roosevelt issued a statement explaining just what the combat area in the European war zone, as already defined by proclamation, was meant to imply and cover. It is sufficient to say that the President's message restricted in general American shipping to ports other than those in western Europe, south of Bergen and north of Gibraltar.

## TRANSFERS TO FOREIGN REGISTRY AND SALES TO ALIENS

Transfers to foreign registry and sales of American marine craft to alien owners and operators constituted an important aspect of 1939 developments. From Oct. 26, 1938 to Oct. 25, 1939, a total of 88 vessels aggregating 229,026.64 gross tons were approved by the Maritime Commission for transfer to foreign ownership or registry. In November, 18 more vessels aggregating 34,320.29 gross tons were also approved. Of the 18 vessels transferred in the interval since October, Brazilian registry claimed 14, aggregating 68,197.29 gross tons belonging to the fleet of Moore-McCormack Lines Inc. Twelve date back to 1919 and two to 1920. It should be pointed out that the vessels indicated in the foregoing transfer have been sold to the Brazilian Government for \$3,500,000 which sum has been placed in a joint account with the Maritime Commission for application to purchases of new tonnage already agreed upon. Under the terms of the agreement between Moore-McCormack Lines Inc. and the Commission, the former will purchase four new C-3 combination cargo-passenger ships and charter four new C-3 cargo ships now under construction by and for the Commission. These vessels will be operated in the New York-South American trade. Moore-McCormack had previously contracted to buy three new C-2 cargo ships and charter three more.

The application of the United States Lines for approval of the trans-

fer of its laid-up North Atlantic fleet to Panamanian registry caused public resentment at what appeared to be a violation of the integrity and sincerity of the Neutrality Act. In due course, the United States Lines withdrew its application. Of the nine vessels involved, the *President Roosevelt* has been assigned to the New York-Bermuda service as the result of negotiations with the Bermuda Government following the war-imposed withdrawal of the regular Furness-Bermuda liners *Queen of Bermuda* and *Monarch of Bermuda*. It should be explained that the United States Lines was hit rather more vitally than most others by the restrictive clauses of the Neutrality Act. A Washington dispatch of Dec. 16 indicated that the proposal of the United States Lines to place its two biggest and finest liners, the *Washington* and *Manhattan*, in service between New York and Italy appeared likely to receive early approval by the Maritime Commission.

A phase of the war-created demand from foreign governments and their nationals for American vessels of miscellaneous type and size, and aside altogether from Neutrality Act restrictions, was that of the opportunity available to private citizens to dispose of craft that had long been on sale but remained unsold. In the existing circumstances, it may be assumed that satisfactory sales prices have been generally procurable. The buying must be done through the instrumentality of private ownership and not related in any way with government-owned stock of second-hand cargo carriers. Sale of government-owned ships for service is prohibited by law to other than American citizens. The provision was written into the law because of the reluctance of private shipowners to undertake new construction unless assured that government-owned vessels would not be employed in competition.

## ACTIVITIES OF THE MARITIME COMMISSION

The United States Maritime Commission was as active in its field during 1939 as in any period since its



### XIII. MANUFACTURES AND TRANSPORTATION

inception. At the year-end the Commission was participating in the construction of 141 new additions to the American merchant marine, some of which were in cooperation with private operators and others for the Commission's own account. On completion, the latter will be sold or chartered to private operators. Probably 90 per cent or more of this new construction has been earmarked for private sale or charter. The general program in its entirety calls for new construction additions of 500 ships over a period of ten years as a minimum requirement for meeting the problem of obsolescence and making available additional tonnage as may become essential. In a word, the minimum of 50 ships per year is scheduled to go on indefinitely on the assumption that later an adequate merchant marine can be maintained. The new construction program is based on standardization of design; thus, almost all the 141 ships on order fall into four categories—the C-1 cargo carrier of about 7,500 dead-weight tons, the C-2 of about 9,500, the C-3 of about 11,700, and the national defense tankers of approximately 16,700 tons. The last (12 in number) are considered to be the most advanced of their class in the world.

Toward the close of 1938, the Maritime Commission was operating through managing agents for its own account, the American France Line, the American Hampton Roads-Yankee Line, the Oriole Lines, the American Pioneer Line, and the American Republics Line. As 1939 drew to a close, all except two services of the American Pioneer Line and the Puget Sound Orient Line were being operated under charter to private enterprise. Early in 1940, the Commission expected to be wholly out of the ship operating business.

On March 16th the Maritime Commission recommended and later on Congress approved important amendments to the Merchant Marine Act of 1936, probably the most important of which is the "trade-in provision," under the terms of which a ship owner can secure credit for an old vessel

under conditions set forth by the Maritime Commission in the event he wishes to build a new vessel.

#### **GREAT LAKES PORTS COMMERCE**

Contracts between shippers and 33 steamship conference lines (American and foreign) were on Nov. 30 found by the Commission to be detrimental to the commerce of the United States. The conclusion was reached that these contracts were unjustly discriminatory and unfair to shippers and interfered with the flow of commerce through Great Lakes ports. The carriers were given 20 days in which to modify these contracts or face cancellation of the conference agreements under which they were made.

The contracts in question obligated the shipper, including subsidiaries, affiliates and agents, to offer to steamship companies for transportation to Europe all of its export shipments thereto "which must move via any United States or Canadian North Atlantic port or waterway (Great Lakes, St. Lawrence River and other rivers and water tributaries included)." All of such shipments, irrespective of their point of origin, the Commission found, must be tendered to the carriers for their vessels which may load at the ports of Norfolk, Newport News, Baltimore, Philadelphia, New York, Boston, Portland, Montreal, Quebec, St. John or West St. John.

Contracts investigated were for the most part drawn to cover a calendar year and provided for continuance throughout subsequent years, subject to termination by either party on 90 days' written notice. The rates, however, were subject to increase or reduction from time to time. Witnesses testifying before the Commission stated that the difference between non-contract and contract rates might average 20 per cent with a minimum of two dollars per ton. The States of Wisconsin, Michigan, Ohio, and Indiana vigorously assailed the contracts as did the Legislature of the State of Michigan.

#### **CONTRABAND SEARCH**

Search for contraband in cargoes is necessarily a particularly annoying

experience and obstacle of more or less extended delay in expediting freight to its destination and was likely to continue so indefinitely despite that a number of ameliorating measures had been introduced to ease the harshness of the situation. In this connection, it should be observed that voyage interruptions incidental to contraband search occur for the most part to neutral ships, and the record shows that Germany has been exercising such seapower as she can spare to sink or capture as expediency may dictate. With Great Britain and France more or less in control of the seas, at least as far as surface craft are concerned, it necessarily follows that these two belligerents are bearing down much more heavily in the matters of interference with and delay to neutral ship services. On October 23, the Department of Commerce issued a summary of a report from the American Embassy in London, which contained British Government suggestions concerning methods of shipping to be employed with a view to minimizing contraband control difficulties. To ship operators it was suggested that in many cases it was possible, where vessels sail from distant ports to European destinations, to send in advance by air mail or otherwise a copy of the ship's manifest, or at least that part of the manifest that related to consignments to places outside the United Kingdom. Receipt of such a copy at the Ministry of Economic Warfare would enable inquiries to be set on foot and, on occasion, be completed before arrival of the vessel itself. In such cases, instructions could be sent enabling the vessel to proceed as soon as her manifest was checked. Under such circumstances, a vessel would be able to quit the contraband-control base with the very minimum of delay.

Another suggestion to avoid delay was to have consignees arrange to supply the Ministry of Economic Warfare in advance with a guarantee against the export of consignments which they were expecting, such guarantees being supplied by the consignees themselves, or their government on their behalf. Toward the

year-end, a new device was developed in order to speed American ships and their cargoes to neutral nations in Europe. What were known by the trade name of navicerts were being made available to American shippers and exporters having shipments intended for nations bordering on Germany. At the British Consulate in New York City, where these navicerts or certificates were being distributed after approval of each applicant's manifest, it appeared to be the consensus of opinion that the new system promised at least some curtailment of voyage delays hitherto experienced.

#### VESSEL SALES AND OPERATING CHARTERS

On Nov. 8, the Maritime Commission announced the sale of the American Pioneer Line's India service to American Export Lines Inc. for \$304,000, being at the rate of \$76,000 per unit of four vessels there operated. Under an agreement with the Commission, the purchaser must contract before April 1, 1940 for construction of four new vessels to be employed on that trade route. The vessels sold average around 6,000 gross tons and are of motorship classification, built in 1920 and 1921. The new ownership constitutes but a single phase of a vast expansion program in process of development by American Export Lines Inc. Following the renaming of the vessels purchased so that they conformed to the company's system of having the prefix *Ex* emblematic of the fleet's badge of distinctiveness incorporated, the first sailing took place on Dec. 3 from New York with the departure of the *Excelsior* for Port Said, Suez, Karachi, Bombay, Colombo, Madras, and Calcutta. On Dec. 13, the Maritime Commission invited bids for purchase or bare-boat charter of the American Pioneer Line's Australian and Far East services and for that of the Puget Sound Orient Line service from Seattle to the Far East. As already indicated, disposal of these services will take the Government out of the ship operating business. Earlier during the year and additional to the

### XIII. MANUFACTURES AND TRANSPORTATION

American Export Lines purchase of the Pioneer Line's India service, the American Republics Line was awarded to Moore-McCormack Lines Inc., and the American-France Line and the American Hampton Roads-Yankee Line and Oriole Lines to the United States Lines. Contracts required of prospective purchasers in both invitations carry obligations to replace existing tonnage acquired with new vessels being constructed by the Commission. Bids on both lines were opened Jan. 5, 1940.

#### AMERICAN FLAG SERVICES TO SOUTH AMERICAN PORTS

Because of its compensatory effect in offsetting the disastrous consequences of the European war inflicted on other services of American ship lines and because, too, of its gratifying individual achievement, it is with some sense of relief to note the broad gauge improvements that mark the record of American-flag travel and services between North and South America during 1939. The sailing from New York on Nov. 6 of the *Nightingale* began the rounding out of a program which the Maritime Commission has emphasized in its plans for stimulating and expanding the American merchant marine, particularly in their application to the Western Hemisphere.

The *Nightingale*, flying the house flag of the Grace Line, was the first of a series of new, fast, and modern cargo vessels built by the Commission to enter service between New York and the west coast of South America. Previously, five similar ships had entered the trade between New York and the east coast of South America under the house flag of the American Republics Line operated by Moore-McCormack Lines Inc. of New York. A sixth similar vessel is scheduled for this service. Three sister ships of the *Nightingale*, the *Staghound*, *Santa Ana*, and *Santa Teresa* were in line to cooperate in the Grace service.

The Good Neighbor fleet of three big liners, inaugurated by the Commission in October 1938 and now under charter to Moore-McCormack

Lines Inc. made a remarkable showing during 1939, carrying as they did a record number of passengers. Not yet in service but indicative of the potentialities of trade and travel between the United States and the Americas to the south, are three combination passenger and cargo vessels under construction for a third important trade route operated by the Mississippi Shipping Co. with its Delta Line between New Orleans and the east coast of South America. New vessels acquired or scheduled for service on the three routes indicated represent a construction investment of more than \$31,500,000. The cargo carriers alone will provide approximately 80,000 tons of space capacity, a considerable proportion of it being refrigerated.

#### WAR EFFECT ON NEW MERCHANT SHIP PROJECTS

With the outbreak of hostilities in Europe, not a few foreign merchant fleet additions were dropped precipitately and, under the circumstances, may be expected to remain so for a more or less indefinite period. Notable among the vessels planned was a superliner for the French Line, to be known as *La Bretagne*, and scheduled for construction in 1940. Expectations were that she would outclass the Line's *Normandie*, the *Queen Mary* and, not improbably the latter's sister ship the *Queen Elizabeth* in most respects. Among notable new liners of foreign construction and registry arriving at New York in immediately preceding pre-war months were the new *Mauretania* of the Cunard White Star Line, and the new freighter *Sommelsdyk* of the Holland-America Line. The latter is the fourth new ship added to the Line's list in about 16 months. A sister ship, the *Sloterdijk*, and two 12,000-ton passenger and cargo liners, the *Westerdam* and *Zuiderdam*, were under construction.

Regarding merchant marine activity almost anywhere abroad, little light is available beyond that of a well-grounded suspicion that all concerned are not only contriving to make good losses by war sinkings but are equally



concerned with additions and overage replacements. The new year, aside from the construction start of the big superliner *La Bretagne* early in 1938, gave promise of being unique in merchant marine experience. The United States Lines' new flagship *America*, largest of her class ever built in the United States, was scheduled to enter North Atlantic service on her maiden voyage in the late spring. Being the centenary year of the Cunard Line in North Atlantic service, the new superliner *Queen Elizabeth* was expected to arrive in New York on her maiden voyage about July 4, 1940. Whether the *America* will have "no place to go" when completed remains to be seen; in any case, if the war is still on, it is obvious that she will not appear on the North Atlantic route. Regarding the *Queen Elizabeth*, it may be inferred that because of other and more pressing considerations, completion was relegated to a more convenient time. Not since its July 1938 issue has *Lloyd's Quarterly* appeared, nor have shipping or shipbuilding reports or news concerned therewith become public property. Hence the pall overhanging world activities in these spheres.

## U. S. SUPERLINERS

Incidental to the program of the Society of Naval Architects and Marine Engineers at its annual meeting in mid-November in New York City was the reading and discussion of a paper entitled "American Superliners—They Will Pay." George C. Gaede, passenger traffic manager of American Export Lines, Inc. and author of the paper, provoked not a few spirited arguments by asserting that construction and operation of superliners by the United States would prove to be a profitable experience and undertaking. Citing comparative figures in support of his contention that an American superliner would return a profit of 20 per cent a year on the operator's investment, Mr. Gaede insisted that "propaganda against superliners had been swallowed, hook, line, and sinker, without analysis of the statements presented." He claimed

that the United States possessed both the capital and the skill, and that Americans who constitute the bulk of all tourist traffic would rally to patronize and support a native luxury ship.

Merchant vessels under construction or under contract in United States shipyards on Dec. 1, 1939, of American Bureau of Shipping classification, numbered 240 of 1,181,795 gross tons. Embraced were 141 sea-going ships of 1,144,350 gross tons; 93 miscellaneous of 36,670 gross tons; two wood of 380 gross tons, and one composite of 395 gross tons. Other vessels under construction and of over 1,000 gross tons consisted of four ear floats of 1,090 gross tons each and one ferry of 4,350 gross tons.

## MERCHANT MARINE NAVAL RESERVE ACTIVITIES

The Naval Reserve continues to expand toward the ultimate strength necessary to fulfill its purpose. Naval Reserve training is being zealously undertaken and a satisfactory degree of efficiency is being achieved. The Naval Reserve Act of 1938 established the definite objective of reaching a maximum numerical strength within a period of not more than ten years, and as nearly as might be possible by equal annual increments. At the New York Navy Yard on Dec. 4, a United States Naval Reserves' "first day at school" opened in traditional fashion when 20 merchant marine officers—captains, mates, and engineers—became again merely students. The occasion may be said to have marked the first time in its history that the Naval Reserve had set up a training school for men of the American merchant marine. The curriculum has been designed primarily to familiarize merchant marine officers with gunnery details and general emergency procedure. If the school gives promise of becoming a success after experience of the initial eight weeks' course, expectations are that it will be continued for an indefinite period. Capt. Harry Earl Shoemaker of the *U.S.S. Seattle* is supervising the first period of instruction.



**QUESTIONS OF HEALTH AND FITNESS**

Speaking at a meeting of the marine section of the National Safety Council at the Maritime Exchange, New York City, on Nov. 15, Bruno J. Augenti, manager of the Marine Index Bureau, declared that the records of his office disclosed cases of licensed seamen who were chronic epileptics, alcoholic and narcotic addicts, tubercular, paretics, progressive paralytics, or mentally deranged. Statistics relating to accidents were claimed to be "very limited." About 30,000 accident report cards were on file and others were being received at the rate of about 1,000 a month. In less than three years operation of the Marine Index Bureau which was established by the National Bureau of Casualty and Surety Underwriters, a condition of affairs more or less appalling has been revealed, although wholly unsuspected when the Bureau was formed. Bureau files were referred to as showing that a number of individuals had been involved in ten or more accidents; in one instance, in as many as 48.

These unfortunates, officially known as "repeaters" or habitual claimants, are also to be found among those on record in the United States Public Health Service as afflicted with the mental or physical disabilities above indicated. It is suggested that adequate medical care be given these people and, for their own good, they should not be returned to the industry until declared definitely cured. Vessel operators that maintain their own medical departments are credited with doing their part in eliminating the unfit, yet only about one-third of the American ship lines are possessed of these services. Steamship owners and others interested have been urged to assemble the most complete data possible on the subject, and, in addition, take the necessary steps to have the Federal authorities amend and strengthen existing regulations. In line with the latter suggestion, the council, composed of steamship company executives and other representatives of the merchant marine industry, voted unanimously to call the

matter to the attention of the House Committee on Merchant Marine and Fisheries.

**LICENSED OFFICER, CADET, AND SEAMEN TRAINING**

In all three directions, 1939 may be said to have contributed much toward the advancement of personnel training. Out of approximately 5,000 young men who expressed interest in the cadet training program of the Maritime Commission, 166 were selected on June 15 as being available for both deck and engine room cadet appointments on United States merchant vessels. Thirty-six states and one territory were represented in the selection. At date, 266 cadets and cadet officers were employed on vessels owned or subsidized by the Government. Cadet training is wholly a civilian undertaking. On Nov. 6, announcement was made of a program for training a limited number of apprentice seamen, following the acquisition of a new merchant marine training station at St. Petersburg, Fla. This new Gulf training station provides the United States Maritime Service—the agency created to administer the Commission's training program—with permanent facilities on three coasts. Facilities for training licensed and unlicensed trainees on the Pacific are located on Government Island in San Francisco Bay. On the Atlantic at Hoffman Island in New York Harbor, there is a station for unlicensed seamen, and at Fort Trumbull, New London, Conn. for licensed officers. Apprentices to be trained in seafaring will be limited in number to 500 yearly, divided into two classes of 250 each. The United States Maritime Service program contemplates training for 3,000 unlicensed seamen and 500 officers annually. The schoolships *American Seaman* and *Joseph Conrad* will be permanently based at the St. Petersburg station. Facilities for training 8,360 seamen yearly in the United States Maritime Service were to be made available to crews and officers of vessels withdrawn from service because of Neutrality Act strictures, necessitating immediate ex-

## COMMERCIAL AVIATION

pansion of the hitherto existing facilities. While engaged in this training, the "dispossessed" seamen will be paid \$36 a month, plus clothing, quarters, subsistence, medical and dental care, and transportation. Officers will receive the like benefits and be paid \$125 a month.

### RESCUE-WORK, CAPTURE, HOAX THREAT, LABOR UNREST

During the year, ships and their crews as constituents of the American merchant marine participated in rescue-work, not only well beyond average experiences but because of its unusually thrilling nature and altogether tragic circumstances. Notable, too, were the experiences of two of

our ships, the *City of Flint* and the *Iroquois*, the former conspicuous for its rescue-work following the torpedoing of the *Athenia* and later for its capture and subsequent release as a contraband carrier; and the latter as the innocent victim of a German Admiralty hoax that the British had planned its destruction on a voyage home from Europe, crowded beyond capacity for the most part with American citizens. Maritime labor troubles were no less evident during 1939 than hitherto, nor were their causes much different from those of other years. Both ashore and afloat in the merchant shipping industry unrest expressed itself in strikes of more or less prolonged duration.

## COMMERCIAL AVIATION

By ANDREW F. HAIDUCK

CHIEF ENGINEER, BELLANCA AIRCRAFT CORPORATION

### GENERAL

**Safety Record.**—Civil aviation continued its march of progress in 1939 with impressive gains in safety, traffic, profits, and production. The airlines established the best safety record in their history, flying approximately 82,000,000 passenger miles per fatality. When contrasted with the similar figure of 22,000,000 passenger miles per fatality in 1938, this increase becomes significant. Further, this phenomenal gain in safety was made despite increased traffic and operations.

**Traffic Increase.**—The number of revenue passengers carried by the airlines in the first six months increased approximately 40 per cent and the load factor rose to 52.9 per cent in the same period. The load factor is the ratio of the number of seats used to the number available. The same factor for 1938 was 47.02 per cent. Approximately 12 per cent of the increased traffic was absorbed by this increased utilization of the seats available. The balance resulted directly from increased operations. Without a doubt the principal reason

for the increased use of the airlines was the excellent safety record.

**Air Express.**—Air express poundage increased 35 per cent over the same period in 1938. Whereas 2,991,657 pounds were carried in the first six months of 1938, the total for the same period in 1939 was 4,041,759 pounds. This does not include foreign and territorial operations which accounted for 1,063,378 pounds more. Considerable controversy was aroused by the proposed formation of a \$2,000,000 company to handle express only. At the end of the year express was handled through the medium of the Railway Express Agency. It appears that this system is mutually unsatisfactory to the airlines and the R.E.A. On many occasions air express had to be forwarded by rail primarily because of heavy passenger traffic which has preference. In view of the increased poundage it will become increasingly difficult for the now existing operators to furnish efficient service. The need for excessive and expensive high speed is not necessary in this field and several efficient cargo airplanes are already developed or being developed for this type of

### XIII. MANUFACTURES AND TRANSPORTATION

operation. The use of present equipment designed principally for passenger traffic is essentially unsound.

**Air Mail.**—The gain in the number of pound miles of mail flown was about 12 per cent. Considerable pressure was being exerted at the end of the year to reduce the postage from six cents to five cents in order to increase the general use of this service. Domestic lines flew 8,128,512,388 mail-pound miles in the first six months of 1939. The total for the same period in 1938 was 7,156,705,087. The mail payments were \$8,218,050.13 for the 1939 period compared with \$7,187,473.69 for the first six months of 1938.

**Airline Profits.**—The increased load factor and traffic resulted in an estimated overall profit for all of the airlines of \$3,000,000 for the year's operations. This is the first time that the total airline operations in the United States showed a profit. It is reasonable to expect that the financial record will be even better in 1940. The Air Transport Association predicts that at least 2,500,000 passengers will be carried in 1940.

**Aircraft Production.**—Civil aircraft production showed the greatest gain of any phase of commercial aviation. Stimulated to a large extent by the emergence of the light airplane from the 40-horsepower stage, production of civil aircraft as a group increased 105 per cent. The total number of civil aircraft produced for the first nine months of the year was 2,698 compared with 1,313 for 1938. Another stimulus in this phase was the student-training program of the administration. This program will enable approximately 10,000 young men to receive flight training. Since the plan requires one airplane for every 10 students, it is obvious that 1,000 airplanes were necessary for this flight-training program. A good percentage of the 50-horsepower airplanes sold were bought by operators for use in this training program.

**Transatlantic Service.**—Scheduled transatlantic mail service was inaugurated May 20, 1939 and passenger service started on June 28. The scheduled flights made the crossing in

22 hours to Lisbon and 30 hours to Marseilles. At the outbreak of the war in Europe Pan American Airways discontinued service to belligerent ports, landing only at Foynes in Ireland or Lisbon in Portugal.

#### SCHEDULED AIR TRANSPORTATION

**Mileage.**—American operated air carriers flew a total of 42,652,257 miles in the first six months of 1939, an increase of almost 4,000,000 miles over the same period in 1938. This mileage includes extensions to foreign countries. The domestic lines alone flew a total mileage of 37,182,929. The daily mileage of the 17 scheduled air transport operators totals 236,000 miles. In the first half of the year 92.24 per cent of the scheduled trips were started and 92.22 per cent completed, corresponding to 63,160 trips. The average speed for all domestic lines was 161 miles per hour, ranging from 110 m.p.h. to 210 m.p.h. as reported by the various companies. The tendency towards very large transport airplanes was somewhat reversed. The much heralded DC-4 has been somewhat reduced in size, and several airline operators have expressed a preference for high-speed airplanes with a capacity of only 14 to 22 passengers. The higher speeds result in lower ton- and seat-mile costs as well as a much smaller initial cost. The large airplane undoubtedly would be more economical to operate if the load factor could be maintained. However, the large airplane is fundamentally sound for long trips, especially if the cabin is pressurized for operation in the stratosphere with resultant increase in cruising speed.

**Mail.**—The total number of mail-pound miles flown in the first six months was 8,128,512,388 compared with 7,156,705,087 of the same period in 1938. This figure does not include the 1,090,400 mail-pound miles flown by the All American Aviation Company during May and June. This company inaugurated pick-up mail service on May 12. This type of pick-up enables an airplane to serve communities which have no airports.

## COMMERCIAL AVIATION

Serving 58 cities in Pennsylvania, West Virginia, Ohio and Delaware, this operator has made more than 13,000 pick-ups in nearly 300,000 miles of scheduled flying. The average speed over the route is 110 m.p.h., and this is only possible because no landings are necessary at any pick-up station. The mail is picked up as the airplane zooms between a pair of poles at 100 miles per hour. Seven months of operation with this device has proved that it is particularly

adaptable to feeder work for communities having no airports.

**Passengers.**—Passenger traffic on the domestic airlines for the first nine months increased 43.23 per cent over the similar interval in 1938. All time high records were set in August with 179,051 revenue passengers. Revenue passenger miles increased 39.23 per cent, totalling 346,124,873. Detailed comparisons with 1938 are shown in the following tables for both the six- and nine-month periods.

### DOMESTIC AIR CARRIER OPERATIONS

	August 1939	September 1939	September 1938	Per Cent over Sept., 1938
Companies reporting.....	17	17	20	...
Revenue passengers.....	179,051	178,219	128,054	39.17%
Pounds of express.....	933,965	981,462	877,564	11.84%
Express pound-miles.....	491,914,099	536,701,889	463,453,744	15.80%
Revenue miles flown.....	7,638,796	7,441,690	6,151,147	20.98%
Revenue passenger miles.....	68,118,164	69,082,813	49,493,504	39.58%
Available passenger seat-miles flown.....	115,285,505	112,571,606	85,121,613	13.22%
Revenue passenger load factor.....	59.09%	61.37%	58.14%	5.56%

(First 9 months: January through September)

	1939	1938	Per Cent Increase
Companies reporting.....	17	20	...
Revenue passengers.....	1,219,928	851,741	43.23%
Pounds of express.....	6,683,108	5,034,337	32.75%
Express pound-miles.....	3,809,891,806	3,013,221,560	26.44%
Revenue miles flown.....	59,804,720	51,924,827	15.18%
Revenue passenger miles.....	481,894,712	346,124,873	39.23%
Available passenger seat-miles flown.....	868,042,018	703,580,686	23.37%
Revenue passenger load factor.....	55.52%	49.19%	12.87%

### SUMMARY OF SCHEDULED AIR LINE OPERATIONS

#### DOMESTIC

	January-June 1938	July-December 1938	January-June 1939
Revenue miles flown.....	33,142,289	36,526,538	37,182,929
Revenue passengers carried.....	490,811	686,047	691,745
Revenue passenger-miles flown.....	208,160,730	268,241,550	278,639,196
Available passenger seat-miles flown.....	442,716,419	506,705,336	526,725,673
Revenue passenger-load factor (per cent)...	47.02	52.94	52.90
Express carried (pounds).....	2,991,657	4,344,310	4,041,759
Express pound-miles flown.....	1,862,792,904	2,484,618,857	2,387,187,546
Mail carried (pounds).....	1	1	1
Mail pound-miles flown.....	7,156,705,087 <sup>2</sup>	7,689,014,584 <sup>2</sup>	8,128,512,388 <sup>2,3</sup>
Mail payments.....	\$7,187,473.69 <sup>2</sup>	\$7,853,723.99 <sup>2</sup>	\$8,218,050.13 <sup>2,3</sup>



# XIII. MANUFACTURES AND TRANSPORTATION

## SUMMARY OF SCHEDULED AIR LINE OPERATIONS—(Continued)

### FOREIGN AND TERRITORIAL

	January-June 1938	July-December 1938	January-June 1939
Revenue miles flown.....	5,592,365	5,522,426	5,469,328
Revenue passengers carried.....	90,506 <sup>4</sup>	88,000	103,327
Revenue passenger-miles flown.....	38,415,985 <sup>4</sup>	37,319,577 <sup>4</sup>	42,996,158
Available passenger seat-miles flown.....	1	1	\$3,732,804
Revenue passenger-load factor (per cent)...	1	1	51.35
Express carried (pounds).....	951,696	1,101,778	1,063,378
Express pound-miles flown.....	1	1	1
Mail carried (pounds).....	373,589	411,436	430,261
Mail pound-miles flown.....	1	1	1
Mail payments.....	\$4,313,794.83	\$4,286,974.16	\$4,937,842.02

### DOMESTIC, FOREIGN AND TERRITORIAL

	January-June 1938	July-December 1938	January-June 1939
Revenue miles flown.....	38,734,654	42,048,964	42,652,257
Revenue passengers carried.....	581,317	774,047	795,072
Revenue passenger-miles flown.....	246,576,715 <sup>4</sup>	305,561,127 <sup>4</sup>	321,635,354
Available passenger seat-miles flown.....	1	1	610,458,477
Revenue passenger-load factor (per cent)...	1	1	52.69
Express carried (pounds).....	3,943,353	5,446,088	5,105,137
Express pound-miles flown.....	1	1	1
Mail carried (pounds).....	1	1	1
Mail pound-miles flown.....	1	1	1
Mail payments.....	\$11,501,268.52	\$12,140,698.05	\$13,155,892.15 <sup>3</sup>

<sup>1</sup> Not available.

<sup>2</sup> The mail-pound miles flown and the mail payments for Inter-Island Airways, Ltd., are included under "Domestic Mail-Pound Miles Flown" and "Mail Payments" as the mail carried by this company is under a domestic-mail contract.

<sup>3</sup> The "Domestic Mail-Pound Miles Flown" and "Mail Payments" do not, however, include 1,090,400 mail-pound miles flown and \$21,551.89 paid to All American Aviation Company for experimental mail pick-up service operated during May and June 1939.

<sup>4</sup> Includes nonrevenue passengers and passenger miles flown for foreign and territorial services.

**Air Express.**—The air express poundage was 6,683,108 pounds, an increase of 32.75 per cent for the same nine-month interval in 1938. This increase was made despite lack of sufficient suitable equipment on the part of the airlines as well as considerable friction between the Railway Express Agency and the airline operators. Early in December, Grover Loening, noted aviation consultant, proposed dissolution of the existing arrangement and the formation of a \$2,000,000 company to handle air express exclusively. The proposed company would have its own pick-up and delivery system and be in no way associated with the Railway Express Agency. However, it appears that efficient and profitable transportation

of air express will not be achieved until suitable airplanes designed specifically for this purpose are put into operation. Since transportation by air has such a wide margin in speed over surface transportation, the airplane suitable for this type of work does not have to have such high performance. Instead it must have large cargo capacity coupled with low cost of operation and maintenance. Until this is acknowledged any express system will not be a profitable venture.

**Fares and Insurance.**—The average plane fare amounted to 5¼ cents per mile at the close of 1939. This is estimated to be the same as first class Pullman fare, and it is in this field that the airplane is making the great-

est inroad. Estimated figures for 1938 indicate that 15,500,000 people patronized the Pullmans whereas 1,344,000 utilized the airlines. Increased safety led to the reduction of air line insurance rates to 25 cents for each \$5,000 protection during any four-hour trip.

**Safety.**—The 17 American airlines set a new record for safety in 1939 when they flew 500,000,000 passenger miles in seven months without a single accident resulting in a fatality. Passenger miles flown per passenger fatality increased 340 per cent for the first nine months of 1939 as compared with the three-year average for 1936-38. On Nov. 2 the President praised the airlines for this record which was better than twice the best previous mileage per fatality record. The percentage of the scheduled trips started was 92.24 and completed 92.22. Several factors contributed towards the establishment of this record. Flying equipment and mechanical safety aids, such as the full feathering propeller, have resulted in better single engine performance, enabling the airplane to continue its trip despite failure of one engine. In other cases it has permitted the pilot to select almost any landing area within a radius of 100 miles. Increased airway and radio facilities have also been instrumental in increasing safety in air travel.

## AIRWAYS

**Domestic.**—Work on the 5,000 miles of new airways which will be added to the Federal Airways System under the current \$7,000,000 program for the fiscal year 1940 was, at the end of October, proceeding on schedule and about 40 per cent completed. In addition, \$2,000,000 worth of airway equipment was ordered to start the 1941 program which, if present plans are realized, will add another 3,000 miles to the system. The completion of the 1940 program and the 1941 proposed construction will bring to more than 32,000 miles the total mileage of the Federal airways system, completely equipped with the most modern air navigation facilities.

Modernization activities under the current program call for the establishment of cone of silence markers in all simultaneous type radio ranges not already so equipped, the purchase and installation of 24 standby transmitters and standby generators in all existing stations not so equipped; and the bringing up to standard requirements of all the major intermediate fields on the entire airways system.

Installation is being made of 81 fan-type markers to mark intersections of airways and provide fixes for traffic control. To the existing teletype communications system will be added 1,800 miles of teletype circuits and 21 additional stations for weather reporting and communications.

A radioteletype circuit is being installed on the Washington-New York Airway. This service will not only replace ground communication service now supplied by land wires, but will transmit to a radio teletype machine installed in aircraft flying over the route an instantaneous and continuous visible record of weather reports and other communications which ordinarily would have to be transmitted subsequently to the aircraft by radiotelephone.

**Instrument Landing.**—One of the most significant projects in the program is the purchase and installation of 10 radio instrument landing systems at the same number of major airports. These installations, to be completed during the summer of 1940, will be located at those cities throughout the nation which will conveniently afford to the greatest number of air-line personnel an opportunity for practical experience in the use of the instrument landing equipment under service conditions in advance of the adverse weather season of 1940-41.

**Transoceanic Aids.**—A powerful radio installation to serve the trans-Atlantic air transport systems is being installed with a transmitter located at Sayville, Long Island, and a receiving station at Barnegat Bay, N. J. These stations will be used to gather and transmit weather information from and to several points in Europe,

### XIII. MANUFACTURES AND TRANSPORTATION

Bermuda, the Azores and points on the Canadian coast, ships at sea, and to provide communications between ground and airplanes for domestic and foreign aircraft in flight. A separate installation on Long Island will also serve as a direction-finding station serving both the domestic airlines and transoceanic flights. This is one of three high frequency direction finders being installed under the current program.

The program also provides for the installation of two radio ranges in the Hawaiian Islands to supplement one established by the United States Army at Honolulu, to provide service for local flights between the islands of the Territory of Hawaii and also as an aid to air navigation in connection with the trans-Pacific route. Two radio weather reporting stations are being installed at Johnston and Palmyra Islands in mid-Pacific. In Puerto Rico and the Virgin Islands, seven standard airway beacons are being installed to assist air navigation along the trade routes to South America and to serve local flights between these United States possessions in the Caribbean.

**Ultra High Frequency Range.**—The experimental work in ultra high frequency radio ranges continued, and part of the Federal Airways program contemplates the ultimate substitution of the higher frequencies for the intermediate now in use. It is expected virtually to eliminate the serious difficulties encountered now under stormy conditions.

**Airports.**—On Nov. 1, 1939 there was a total of 2,273 airports and landing fields, as well as 168 seaplane bases in the United States. The detailed distribution follows:

Municipal airports.....	645
Commercial airports.....	455
Civil Aeronautics Authority intermediate fields.....	258
Army airdromes.....	59
Navy, Marine Corps and Coast Guard stations.....	22
State-operated fields.....	45
Marked auxiliary fields.....	664
Private fields.....	99
Fields for miscellaneous Government activities.....	26
Total.....	2,273

Airports and landing fields having night lighting equipment were as follows:

Municipal.....	294
Commercial.....	93
Intermediate.....	258
Army.....	33
Navy.....	19
State.....	9
Auxiliary.....	22
Private.....	5
Total.....	728

Seaplane bases on Nov. 1, 1939 were:

Navy.....	13
Coast Guard.....	10
Army.....	2
Marine Corps.....	1
Other seaplane bases and anchorages.....	142
Total.....	168

Seaplane bases having any night lighting equipment were:

Navy.....	1
Coast Guard.....	1
Other bases and anchorages.....	7
Total.....	9

**Airport Survey.**—The salient conclusions of the airport survey mentioned in THE AMERICAN YEAR BOOK, 1938 (p. 531) were briefly: (1) The development and maintenance of airports should be recognized as a matter of national concern; (2) such a system should have Federal aid; (3) Federal assistance for airports should continue through annual appropriations for that purpose; (4) at least part of the regular work relief funds should be devoted to airport expansion.

#### TRANSATLANTIC SERVICE

Between May 20 and Sept. 16 Pan American carried 28,163 pounds of mail across the Atlantic. Both the northern and southern routes were used in this service. On June 28 passenger traffic was inaugurated to Marseilles and Lisbon with schedules of 30 and 22 hours respectively. At the outbreak of European hostilities all belligerent ports were omitted from the schedules, leaving only Foynes in Ireland and Lisbon as eastern terminals. At the end of the year the schedule was one round trip per week.

**PRIVATE FLYING**

**Pilots.**—On Nov. 1, 1939 there were 29,513 active pilot certificates of competency registered. The biggest gain was in the number of student pilots which totalled 27,691. Without a doubt the Civilian Pilot Training Act of 1939 authorizing the training of pilots with Federal funds for a period of five years had a most stimulating effect in the promotion of private flying. For the year beginning in June 1939 \$4,000,000 was appropriated for the training of 11,000 pilots. Ninety-three per cent of the 11,000 must be college students and the balance will be allocated to non-college men. Participants in this program which started with the fall semester at 400 universities will only have to pay for insurance, physical examination, and laboratory fees, all totalling not more than \$40.

**Student Training.**—The training of student pilots under the Civilian Pilot Training Act of 1939 is being conducted under a rigorous standard program of instruction outlined by the Civil Aeronautics Authority. In the interest of increased safety the program has been very well outlined, and operators intrusted with student instruction under this program have been examined for competency as well as adequacy of equipment. One stipulation makes it mandatory that there be at least one instructor for each 10 students as well as one airplane for the same number. In addition, all flight instructors have been rerated after severe and exacting flight tests under the supervision of Army personnel. Civil Aeronautics Authority officials have predicted that this program will result in 100,000 pilots and 50,000 airplanes in five years. It is certain that the demand for small private airplanes economical to operate will increase tremendously. The light airplane manufacturers record production in 1939 was in no small measure due to the program, since the pilot training was confined by economic reasons to this type.

**Safety.**—The question of safety in private flying came in for considerable attention in 1939 from several angles. First, the methods of student instruc-

tion were standardized and instructors rerated after undergoing rigorous flight tests. Secondly, the characteristics of airplanes at speeds close to the stall were the object of more stringent regulations in order to prevent the ever dangerous unintentional stall with the subsequent spin. This has been the characteristic responsible for most fatalities in private flying. A few airplane manufacturers already have airplanes in production which do not exhibit these dangerous tendencies. The new Bellanca three-place and the Erco two-place in particular do not spin, and the stall characteristics are such that the worst neophyte can not get into difficulty unless he deliberately dives the airplane into the ground. Since the spin is an unpleasant, as well as an unnecessary maneuver in private flying, it will of necessity be entirely eliminated as a characteristic of private airplanes.

**AIRCRAFT PRODUCTION**

The best record increase in civil aviation occurred in the production of civil aircraft. The first nine months of 1939 saw an increase of 105½ per cent over the same period in 1938. A total of 2,698 commercial airplanes were produced, whereas production in 1938 was only 1,313. The most significant feature was the fact that 2,268 or 84 per cent were of the one- and two-place light-plane category, most of them powered with 50-horsepower. The biggest contributing factor for this trend was the Civil Aeronautics Authority training program. One light-plane manufacturer alone produced 1,672 airplanes up to the middle of December.

The biplane is definitely on its way out since less than three per cent of the total were manufactured in 1939. The inherent cost disadvantage in production of this type, brought about by the greater number of parts, will gradually eliminate the biplane if competition becomes much keener. Another factor is the generally increased weight and decreased performance characteristic of the biplane. The most popular airplanes were the simple strut-braced high-wing mono-



### XIII. MANUFACTURES AND TRANSPORTATION

planes. This type lends itself most easily to quantity production.

Credit for this boom in the small plane category must also go to the engine manufacturers who made available the 50- and 65-horsepower engines at scarcely no increase in weight over their original 40-horsepower models. Thus it was possible to obtain increases in power up to 62 per cent with no increase in size of airplane. At the same time the increased power gave increased cruising speeds ranging from 90 to over 100 m.p.h. With the 40-horsepower engine these same airplanes usually cruised at only 75 miles per hour. This increased performance lifted the type out of the purely airport category. Since these smaller airplanes range in price from \$1000 to \$2000, they reach the greatest market. Indications at the close of the year were that the large, expensive (\$10,000-\$25,000) four- or five-place airplanes for the private pilot were very rapidly losing ground.

At least two manufacturers appeared with new three-place airplanes featuring safe low cost transportation. One in particular averages 25 miles per gallon at a cruising speed of 120 m.p.h. At the end of the year the most prominent light-plane manufacturer also introduced a three-place airplane which is expected to sell for approximately \$1,800.

#### RESEARCH

**General.**—The importance of aeronautical research was the object of much discussion in Congress from the viewpoint of national defense. Col. Charles A. Lindbergh testified that additional research facilities were vitally necessary if our fighting airplanes were to be on a par with those in use by foreign powers. After much discussion Congress appropriated \$10,000,000 for a new aeronautical research laboratory. After due consideration of 54 sites Moffett Field near Sunnyvale was selected. This laboratory will supplement the facilities of the National Advisory Committee for Aeronautics at Langley Field, Va.

**Aerodynamics.**—The regular con-

ference between N.A.C.A. and the industries' engineers and executives revealed several interesting and promising phases of research, some of them extremely confidential. In view of the chaotic state of affairs in Europe and Asia most of the work was directly concerned with the reduction of parasite drag conducive to increased performance of military airplanes. The quest for higher speeds becomes increasingly difficult and factors hitherto neglected or commonly accepted have been investigated with the utmost care to remove any vestige of unnecessary drag. Since the principal source of drag of the aerodynamically clean airplane today lies in the wings, a considerable portion of the research program was devoted to the reduction of wing drags. It can only be disclosed generally that a new wing section has been developed capable of raising the speed of military aircraft to 500 m.p.h.

Windshield shapes and sizes were also investigated from the "shock wave" standpoint. Some of the usual types investigated showed very sharp increases in drag when local velocities reached certain critical values. Up to a short time ago windshields were designed almost strictly from a utilitarian viewpoint. High speed tunnel tests indicated that considerable improvement could be made with very little or no sacrifice in vision characteristics.

Engine cowling still received considerable attention and several interesting results were obtained. A new type of N.A.C.A. cowl was presented to the industry. So well is the engine cowed and so efficiently is the air directed to the cooling fins of the engine that both increased speed and better cooling are claimed for this cowl. In this connection the ideal airplane would have engines entirely within the wing or fuselage utilizing ducts to lead the air to the cylinders.

The perennial flap in slotted form was also the object of considerable testing. An extreme type of a venetian blind flap tripled the life of an ordinary airfoil. Interest in leading edge slots was also revived, particularly in the direction of securing bet-

## PERIODICAL PUBLICATIONS

ter lateral stability and control at the stall.

**Engines.**—Investigation of the pitch, thickness and attachment of finning to cylinder heads of airplane engines has proved that the power obtainable for a given displacement need not yet be limited by cooling problems. Preliminary results indicated that the power output per cylinder could be doubled with a suitable finning arrangement. The development of a dynamic suspension system somewhat similar to the floating power now commonly used in automobile engine installation promises to permit unrestricted use of higher powered engines without any adverse effects on the structure of the airplanes. Fuel injection is still being investigated with special emphasis on the use of safety fuels of low volatility.

**Plastics.**—The application of plastics to rapid quantity production of aircraft received considerable loose publicity during the year. In several cases so-called "plastic" airplanes were constructed with a fair degree of success. However, all were really constructed of wood laminations bonded under the action of both heat and

pressure with a synthetic resin. In large quantity production this process should prove rapid and economical, but the cost of the molds is excessive and can only be justified by large production.

The aerodynamic advantage of this type of construction is considerable, since drag producing protuberances, such as rivet heads, are absent. The original "plastic" airplane produced by the Clark Duramold process has been flying for approximately a year, and the expected aerodynamic gains have been substantiated.

A true plastic airplane is being developed in strict secrecy by Eugene Vidal. From all reports it appears that a pure filler reenforced plastic construction is being used instead of the previously mentioned laminated plastic bonded wood. Another manufacturer has attacked the problem from the angle of securing a cold setting resinous bond which would eliminate the need for costly steam heated molds. A curing process has been substituted which is more easily adaptable to production since a maximum of a four-hour period may elapse before curing under heat is mandatory.

## PERIODICAL PUBLICATIONS

### *Aviation*

330 West 42nd. Street, New York City

### *Bus Transportation*

330 West 42nd. Street, New York City

### *Electrical Communication*

67 Broad Street, New York City.

### *Electrical World*

330 West 42nd. Street, New York City

*Journal of the Aeronautical Sciences*  
30 Rockefeller Plaza, New York City.

### *Manufacturers News*

120 South La Salle Street, Chicago.

### *Manufacturers Record*

Baltimore, Md.

### *Marine Age*

75 West Street, New York City.

*Marine Engineering & Shipping Age*  
30 Church Street, New York City.

### *Marine Journal*

5 Beekman Street, New York City.

### *Marine News*

26 Water Street, New York City.

### *Marine Progress*

95 Broad Street, New York City.

### *Mass Transportation*

431 South Dearborn Street, Chicago.

### *National Aeronautic Magazine*

Dupont Circle, Washington, D.C.

### *Popular Aviation*

608 South Dearborn Street, Chicago.

### *Protectionist*

38 Chauncy Street, Boston.

### *Railway Age*

30 Church Street, New York City.

### XIII. MANUFACTURES AND TRANSPORTATION

<i>S.A.E.</i> (journal of the Society of Automotive Engineers) 29 West 39th Street, New York City.	<i>Shipping Digest</i> 420 Lexington Ave., New York. <i>Transit Journal</i> 330 West 42nd St., New York City.
---	--

### COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

#### MANUFACTURERS

AMERICAN ASSN. OF CREAMERY BUTTER MANUFACTURERS, 110 N. Franklin St., Chicago, Ill.  
AMERICAN AUTOMOBILE ASSN., Pennsylvania Ave. at 17th St., Washington, D.C.  
AMERICAN BOTTLERS OF CARBONATED BEVERAGES, 224 Southern Building, Washington, D.C.  
AMERICAN BRUSH MANUFACTURERS ASSN., 505 Arch St., Philadelphia, Pa.  
AMERICAN HARDWARE MANUFACTURERS ASSN., 342 Madison Ave., New York City.  
AMERICAN INSTITUTE OF STEEL CONSTRUCTION, 200 Madison Ave., New York City.  
AMERICAN IRON AND STEEL INSTITUTE, 350 Fifth Ave., New York City.  
AMERICAN PAPER AND PULP ASSN., 122 E. 42nd St., New York City.  
AMERICAN PETROLEUM INSTITUTE, 50 W. 50th St., New York City.  
AMERICAN ZINC INSTITUTE, INC., 60 E. 42nd St., New York City.  
AUTOMOBILE MANUFACTURERS ASSN., 366 Madison Ave., New York City.  
MELLON INSTITUTE OF INDUSTRIAL RESEARCH, University of Pittsburgh, Pittsburgh, Pa.  
NATIONAL AMERICAN WHOLESALE LUMBER ASSN., 41 E. 42nd St., New York City.  
NATIONAL ASSN. OF COTTON MANUFACTURERS, 80 Federal St., Boston, Mass.  
NATIONAL ASSN. OF ICE INDUSTRIES, 228 N. La Salle St., Chicago, Ill.  
NATIONAL ASSN. OF MANUFACTURERS, 14 W. 49th St., New York City.  
NATIONAL ASSN. OF WOOL MANUFACTURERS, 80 Federal St., Boston, Mass.  
NATIONAL ELECTRICAL CONTRACTORS

ASSN., 420 Lexington Ave., New York City.  
NATIONAL ELECTRICAL MANUFACTURERS ASSN., 155 E. 44th St., New York City.  
NATIONAL FEDERATION OF TEXTILES, 10 E. 40th St., New York City.  
NATIONAL LUMBER MANUFACTURERS ASSN., 1337 Connecticut Ave., Washington, D.C.  
NATIONAL MACHINE TOOL BUILDERS ASSN., 1220 Guarantee Title Bldg., Cleveland, O.  
NATIONAL METAL TRADES ASSN., 60 E. 42nd St., New York City.  
RUBBER MANUFACTURERS ASSN., 444 Madison Ave., New York City.  
UNITED STATES BREWERS ASSN., 21 E. 40th St., New York City.  
UNITED TYPOTHETAE OF AMERICA, Tower Building, 719 Fifteenth W., Washington, D.C.

#### TRANSPORTATION AND COMMUNICATION

AERIAL LEAGUE OF AMERICA, 280 Madison Ave., New York City.  
AMERICAN ASSN. OF RAILROAD SUPERINTENDENTS, 111 Union Station, St. Louis, Mo.  
AMERICAN RAILWAY ENGINEERING ASSN., 59 E. Van Buren St., Chicago, Ill.  
AMERICAN ROAD BUILDERS ASSN., 95 National Press Bldg., Washington, D.C.  
AMERICAN STEAMSHIP OWNERS ASSN., 11 Broadway, New York City.  
AMERICAN TRANSIT ASSN., 292 Madison Ave., New York City.  
ASSOCIATED TRAFFIC CLUBS OF AMERICA, 917 Majestic Bldg., Indianapolis, Ind.  
ASSOCIATION OF AMERICAN RAILROADS, Transportation Building, 17th and H Streets, Washington, D.C.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

- |  |  |
|--|--|
| <p>CRUFT LABORATORY, Harvard University, Cambridge, Mass.</p> <p>INTERNATIONAL AMATEUR RADIO UNION, 38 La Salle Rd., West Hartford, Conn.</p> <p>MARITIME ASSN. OF THE PORT OF NEW YORK, 80 Broad St., New York City.</p> <p>NATIONAL AERONAUTICS ASSN., 1909 Massachusetts Ave., N.W., Washington, D.C.</p> <p>NATIONAL COUNCIL OF AMERICAN IMPORTERS AND TRADERS, INC., 45 E. 17th St., New York City.</p> <p>NATIONAL HIGHWAYS ASSN., Bass River, Cape Cod, Mass.</p> | <p>NATIONAL INDUSTRIAL TRAFFIC LEAGUE, 1 La Salle Street Bldg., Chicago, Ill.</p> <p>NATIONAL TRAFFIC SERVICE ASSN., 105 N. Moore St., New York City.</p> <p>NORTH AMERICAN EXPORT GRAIN ASSN., Inc., 2 Broadway, New York City.</p> <p>RAILROAD OWNERS ASSN., 502 Chandler Bldg., Washington, D.C.</p> <p>RAILWAY BUSINESS ASSN., 38 S. Dearborn St., Chicago, Ill.</p> <p>UNITED STATES BUREAU OF STANDARDS, Washington, D.C.</p> <p>UNITED STATES NAVAL RESEARCH LABORATORY, Washington, D.C.</p> |
|--|--|



**PART FIVE**  
**SOCIAL AIMS AND CONDITIONS**  
**DIVISION XIV**  
**IMMIGRATION AND POPULATION**

**RACE CONDITIONS IN THE UNITED STATES**

BY HARRY H. LAUGHLIN

CARNEGIE INSTITUTION OF WASHINGTON

---

**RACIAL HISTORY IN NORTH  
CAROLINA**

As a background for the analysis of its material on the sources and care of the insane and mental defectives of North Carolina, the state commission presented a short population history of that commonwealth. Its whole report is published under the title, "A Study of Mental Health in North Carolina: Report to the North Carolina Legislature of the Governor's Commission Appointed to Study the Care of the Insane and Mental Defectives."

In reference to color and nativity the report states: "In North Carolina 99.6 per cent of the white population (1930 census) were born in the United States, giving the state first rank in this respect. North Carolina has the highest rate of native state born whites in the country as shown in Table 8 on the following page, which includes a comparison with neighboring states. As far back as 1850 only 3.76 per cent of the population were born outside of the state, and 0.46 per cent were foreign born. These population facts have a direct relation to the incidence of mental disease as will be shown in later chapters. There is considerable pride in this 100 per cent American stock, but

it is possible that some new stock, especially from northern European countries, would have been beneficial. Another point that should be added here is that for almost a century North Carolina has been a population exporting state."

On page 16, Table 12, the increase of population of North Carolina by race from 1790 to 1930 is given. It shows that the per cent white decreased from 73.19 in 1790 to 61.96 in 1880, then gradually increased again to 70.5 in 1930.

**MRS. ROOSEVELT AND  
THE D.A.R.**

On Feb. 27, 1939, as a protest against the refusal of the Daughters of the American Revolution to permit Marion Anderson, a negro concert singer, to sing in Constitution Hall in Washington; Mrs. Franklin D. Roosevelt resigned her membership in that organization. It appears that the Hall was constructed from funds received under the condition that no Negro should appear on the stage. The organization claimed to be simply carrying out the particular building agreement, but the President's wife held that the racial discrimination was too patent for a great, national organization like the

## RACE CONDITIONS IN THE UNITED STATES

D.A.R., and resigned in protest. Current newspaper comment commonly presented the view that the wife of the Democratic president going out of her way to advance social equality for the Negro probably marked the end of the New Deal Democratic Party as the dominant political white party of the South.

### PUERTO RICANS IN NEW YORK CITY

Migration between Puerto Rico and continental United States showed a net excess of arrivals over departures for the years 1921-1935 inclusive of 55,159. Free intermigration is playing its part in drawing the island closer to the states economically, racially, culturally and politically. Lawrence R. Chenault, author of *The Puerto Rican Migrant in New York City*, calls attention to the migration factors.

"One important point to keep in mind in considering the migration of the Puerto Rican people to the United States is that the settlement of a few thousand persons in this country is the net result of a very much larger movement (nearly 200,000 in, less approximately 150,000 out) of people to and from the island. . . . Another important factor is that when once a settlement is started and becomes as large as the Puerto Rican settlement in New York, there is a sort of pull from it to people on the island. People planning to migrate want to join relatives and friends in New York and to be with people of their own racial group rather than to go to some isolated rural place in Texas or Florida. . . . Of the total of 52,774 persons who were born in Puerto Rico and were residing in the United States in 1930, 11,132, or about twenty-one per cent, were colored. In 1930, approximately twenty-six per cent of the population were classified as 'colored' in Puerto Rico. In other words, there is a slight tendency for the migration to the United States to contain a greater percentage of white people than is found on the island."

### NEW YORK'S STUDY OF THE NEGRO

On Feb. 26, 1939, the New York State Legislature's Commission on the Condition of Urban Negro Population made its report after a two-year study. The commission was set up as an aftermath of the Harlem riots of 1937 and worked under a legislative budget of \$30,000 and an additional fund of \$25,000. The investigation reported "a widespread discrimination against New York's 500,000 negroes" as follows: "Your commission feels justified in stating that the principle and intention frequently avowed by the State Government and the people of the State of New York, to accord all constituents of the population equal opportunity to share in the rights and privileges of citizenship have been disregarded by many local government authorities, who have been reluctant to remedy unfavorable conditions which make it impossible for negroes to share equally such rights and privileges of citizenship."

The report found that "no successful attacks can be made on the secondary problems of New York's negro citizens until the basic handicap of inadequate income is removed. Bad housing, juvenile delinquency, high mortality rates and attendant evils will continue as long as vast areas of possible and preferred employment are barred to a large percentage of the colored population;"

and continued,

"We realize that there is need for State-wide action beyond what can be accomplished through legislation alone. Laws can set the pattern for community improvement, but they reach maximum effectiveness only with the support of an aroused public opinion which understands their importance."

The Committee recommended 14 bills each of which was designed to provide for the correction of social or economic conditions believed to be unfavorable to the negro in New York.

## XIV. IMMIGRATION AND POPULATION

### EQUALITY OF CIVIL RIGHTS

The New York Constitutional Convention of 1938 considered 694 propositions from which it selected 57 for submission to the judgment of the voters at the general election Nov. 8, 1938. Among the submitted proposals was the reorganization or re-wording of Article I, the Bill of Rights. Section 11, Article I of the state constitution now reads: "No person shall be denied the equal protection of the laws of this state or any subdivision thereof. No person shall, because of race, color, creed or religion, be subjected to any discrimination in his civil rights by any other person or by any firm, corporation, or institution, or by the state or any agency or subdivision of the state." This reassertion was approved by the voters in the November state election by a vote of 1,521,036 for to 1,301,797 against. It became effective Jan. 1, 1939.

### "CONQUEST BY IMMIGRATION."

**Racial Constitution and Family-Stock.**—On May 15, 1939, the Chamber of Commerce of the State of New York, through its Committee on Immigration and Naturalization, John B. Trevor, chairman, after a long study of the problem, issued a report on trends in the nation's racial constitution and family-stock quality as influenced by immigration. The report is in the form of a biological study by Harry H. Laughlin entitled "Conquest by Immigration," and the research is described as "A study of the United States as the receiver of Old World emigrants who become the parents of future-born Americans; a research on the essential long-time parallel between conquest following successful military invasion and enforced settlement on the one hand and legalized, peaceful immigration and settlement on the other; and an investigation into those forces by which a sovereign nation can, to its own benefit, control immigrant-additions to its own reproductive stocks in number, geographic distribution, race-descent and inborn quality."

This report presents the results of its investigations in chapters as fol-

lows: Biological Nature of Human Migration, Major Racial Problems in the Development of the American People, Immigration-control Policy of the United States, Aliens as Public Charges, and Summary and Findings.

Chapter 1 demonstrates, by illustrations from past and current history, what happens in racial fortunes when several races meet in substantial numbers in common territory over a long period of time. In Chapter 2 the racial problems which have, in succession, confronted the American people are listed and treated as follows:

1. The effort of the white pioneer-colonists along the Atlantic seaboard to prevent destruction by racial mixture with the American Indian;
2. The conflict for racial and institutional supremacy between the British colonists on the one hand and the French, Dutch and Spanish on the other;
3. The importation of Negro slaves;
4. Oriental immigration;
5. Radical change in racial and individual character of immigrants beginning with the great rise of American industry following the Civil War;
6. Mexican immigration into the southwest; and
7. The substitution of the biological for the asylum and economic bases of the nation's immigration-control policy.

Chapter 3, in tracing the history of the immigration-control policy of the United States, finds two natural major periods and three policies.

First period, during the colonial generations and the early years of the republic natural conditions set adequate selective immigrant standards; therefore the minimum statutory regulation was required.

Policy basis one: Open gates. Asylum.

Second period, when natural conditions were no longer adequate to select desirable immigrants, statu-

## RACE CONDITIONS IN THE UNITED STATES

tory control began, at first limited, then more critically selective to meet changing conditions.

Motives which dominated the nation's legislative policy under the period of statutory control:

- (a) The economic or quantitative standard.

Policy basis two: High numbers and cheap labor.

Without regard to numbers, race or to the immigrant as a parent of future citizens, the economic standard brought negro slaves to the South, oriental workers to the Pacific Coast and cheap immigrant labor to the North.

- (b) The biological or qualitative standard.

Policy basis three: Fewer total numbers. Racial quotas. Higher individual and family-stock standards.

When the nation realized that the immigrant, instead of being a laborer only, was really the parent of future citizens, the biological standard was gradually substituted for that of the asylum and the economic basis.

In the populational history of the United States the low point in "per cent native born" is found to hug the 85 per cent mark from about 1870 to 1910, fluctuating a little from time to time. But a heavy increasing absolute number of foreign-born, offset by the rapid increase in native born, kept the per cent native born about the same during the "first generation after the Civil War." Under the influence of the more highly restrictive and selective immigration-control laws of the present generation there has been a tendency for the per cent native born to rise slightly. Thus, in 1920 it was 86.8 and in 1930 it was 88.4. The 1940 census may again find the per cent native born as high as 90, a proportion which it has not reached since 1850.

Chapter 4 reports studies in reference to (1) immigrants who become public charges, and (2) aliens and unemployment.

**Public Charge.**—For this particular research the study covered the immigrants in state institutions for the mentally ill and the criminalistic classes. The material analyzed under this heading is found in Appendix C which consists of the reports and firsthand findings of the present researches on the distribution of inmates of the 169 State and Federal Hospitals for the Mentally Ill, in reference to race descent, birthplace, nativity of parents, citizenship and legal residence. Forty-one state and one Federal institutions for the mentally ill, out of a total of 167 state and two Federal, report 48,187 foreign-born inmates.

The material analyzed under the heading State Penal Institutions and Reformatories is found in Appendix D which covers reports and firsthand findings of the present researches on the distribution of inmates in the 239 state and Federal penal institutions by race descent, birthplace, nativity of parents, citizenship and legal residence. Forty-two state and three Federal penal institutions reported 4,973 foreign-born inmates.

It is noted that the immigration laws sought to sort out would-be immigrants who might become public charges and to deny them admission to the United States. How successful or unsuccessful these statutes have been is shown in part by counting the foreign-born actually found in state prisons and state hospitals for the mentally ill.

### **Foreign Born and the Unemployed.**

—There has been no accurate count of the unemployed during the current depression. The most reliable estimates have run from a low point of 500,000 in 1929 estimated by the National Industrial Conference Board, to a high point of 13,723,000 in 1933 computed by the American Federation of Labor. The first unemployment census of the United States in 1937 listed 5,821,035 totally unemployed. This number perhaps doubled during the reaction of 1938 and 1939.

With a total number of foreign born in the United States, according to the last census—that of 1930—of



#### XIV. IMMIGRATION AND POPULATION

14,204,149 (but not all wage earners even in prosperous times) there is thus a close relationship between the number of unemployed at the low point in the current depression and the number of foreign-born actual or potential wage earners in the country—the one figure roughly balancing the other.

**Reaction of the United States to the Situation.**—The immigrant, once in the United States, whether entering illegally or legally, has been made welcome and treated as the equal of the native-born citizens. The tendency has been to break down the value of citizenship and to make actual residence or place-where-found the basis of civil right. One section of the report, Appendix A, gives an account of how other immigrant-receiving countries besides the United States handle the matter of immigration and unemployment.

Chapter 5 gives a summary of the investigations and conclusions. These researches find that the problem of immigration-control is essentially a biological one, parallel in basic factors with the geographical movement and attempted re-establishment of a species or variety of wild or domestic plant or animal. These studies point out, first, that, if future immigrants are to be made a definite asset to the hereditary quality of future generations of the American people, it will be necessary to clarify and to enforce the national immigrant standard for racial type, and to limit the numbers annually admissible within each such race-class to a quota readily assimilable by the established American race; second, that the basic human seed-stock of the country having in the past reproduced abundantly and, after a number of generations of wide geographical movement and inter-marriage, having established the American type, which is now reproducing at a rate adequate for the sound maintenance and normal increase in the population, it becomes feasible to raise the immigrant-stock standard very substantially, so as to admit within the quota only those would-be immigrants whose inborn qualities of body, mind and spirit, if

added to the future population, would constitute a definite asset to the nation by filling some specific human capacity-need in the country's reproductive stock; and third, that, the general immigration policy of the country having been reorganized by recent Federal enactments, the time seems appropriate to codify the Federal laws on this subject. A sound "Immigration Code" would cover policy, administrative organization, authority, procedure and law enforcement in reference to

1. Immigration—total number admissible annually, their race-quota distribution, and individual and family-stock standards
2. Naturalization
3. Deportation and cancellation of naturalization
4. Citizenship and residence
5. Registry of aliens

#### "RACISM" AND USE OF THE WORD "RACE"

**Racial Differences.**—The American Committee of Democracy and Intellectual Freedom, founded on Lincoln's Birthday, 1939, under the national chairmanship of Dr. Franz Boaz, distinguished anthropologist of Columbia University, and the secretaryship of M. I. Finkelstein of the College of the City of New York, opposes "racism" in connection with American immigrational standards and classification of the population of the United States. This committee presents the postulate that no people such as the English, French, Spanish, Irish, Italian—each being of highly mixed descent—can be treated as a "race." The committee holds further that racial differences—when they exist—are confined to physical traits, that they do not apply to mental capacities or spiritual qualities.

The committee, in support of its opposition to the use of the term "race" as meaning a biological unit or subdivision of mankind with a common descent and a common endowment in physical, mental and spiritual qualities, quotes the American Anthropological Association, which in December, 1938, unani-

mously adopted the following resolution:

"Be it resolved that the American Anthropological Association repudiates racialism and adheres to the following statement of facts:

1. Race involves the inheritance of similar physical variations by large groups of mankind, but its psychological and cultural connotations, if they exist, have not been ascertained by science. . . ."

## Heredity and Environment. —

Critics point out that this is equivalent to saying that only physical traits are based upon biological inheritance; that mental and spiritual qualities depend upon environment, not heredity. Again is presented the necessity for still more basic and careful researches to determine the relative parts which heredity and environment play in the human constitution and conduct. Current researches in eugenics seek to establish accurate yardsticks and diagnostic standards for definite physical, mental and moral traits; to trace the embryological and post-natal developmental case histories of individuals; to plot blood kinships of persons; to separate and evaluate the factors of heredity and environment; to trace the hereditary factor in its family distribution; and to determine the rule of inheritance of each trait thus studied.

**Pure Races.**—Dr. John R. Swanton recently presented the view that there are no longer any "pure human races"—that humanity is hopelessly mixed. But comfort is found in the belief that "most fine civilizations are based upon hybrid populations." Satirically, the biologists replied "if no pure race exists perhaps there is no such thing as a race of any sort, and consequently no use for the word race." The biologists pointed out further that while there are many hybrids or mongrels constantly being produced, within the range of sexual fertility, by different species or varieties which occupy the same territory, such cross-breeds produce many thousands of ill-adapted individuals to one which shows a real advance in

adaptability or capacity, or which founds a new and useful race or variety, and thus constitutes any biological advance at all. Consequently, when well adjusted and once established, the policy of selective breeding of pure-blood registered stock carries on any well adapted race of domestic plant, animal or man much more effectively than mate selection according to the policy of mongrelism.

## BIOLOGICAL BASIS OF THE AMERICAN RACE

Zoologically the word "race" in the classification of animals connotes a group subordinate to that of the species or sub-species; it is coordinate with "variety," and is more inclusive than "stock" or "type." In the world of domestic plants and animals a race or variety is a definite kind of the particular species which, upon mating with others of similar descent, tends strongly, within a limited trait-range, to breed true to type.

With the species of mankind—*homo sapiens*—a race may be defined as a group of related family stocks which possess similar physical, mental and spiritual traits in common, which serve to distinguish it from other human varieties, and which distinctive traits, by intra-mating, regardless of environment, tend strongly to reproduce themselves in recognizable and measurable fashion as the characteristic qualities of the offspring.

In America obviously the American Indian conforms to such a definition of the American race, with many characteristic types or tribes. Also in the United States the Negro tends to conform to the standard of race. Also the Mongolians found in the western hemisphere are similarly described as members of distinctive races and sub-races of mankind. But the present object is to define the white or Caucasian racial group which, by successive immigrations and conquests, has occupied and dominated the American continent during the last ten human generations, and has become the characteristic American race.

Racially an American is a white

## XIV. IMMIGRATION AND POPULATION

person each ancestral line of whom traces directly to one of the foundational race-stocks of the American people, or to a person fully assimilated by the American race without essential race-change to the latter.

### THE RACE ELEMENT IN CALIFORNIA'S MIGRATORY LABOR

In July, 1939, Carey McWilliams, Commissioner of Immigration and Housing, California, published a book entitled *Factories in the Field*. This is a research volume of 325 pages, plus bibliography. Social and economic factors are his primary consideration but, because the racial factor plays such a prominent part in the problem he is compelled to make frequent reference to "race." When one reviews the book for the purpose of abstracting and evaluating the racial factor one finds 580 different references to "race" recorded on 109 different pages. By race and number these references run as follows:

Chinese.....	150
Japanese.....	132
Mexican.....	104
Filipino.....	70
Hindu-East Indian.....	38
American.....	28
American Indian.....	17
Armenian.....	11
Portuguese.....	7
Negro.....	6
Italian.....	4
Spanish.....	2
German.....	2
Swiss.....	2
Puerto Rican.....	2
Alsatian.....	1
Greek.....	1
Australian.....	1
Russian.....	1
English.....	1

580

This reference-distribution is a very rough but useful index of numbers and importance of the constituent races in California's "outcast labor" since statehood. The most striking feature of the change in the racial make-up of this labor group is found in the radical change since 1925 from Chinese, Japanese, Mexicans, Hindus, and Filipinos to "white workers"—Americans—who came in increasing numbers from Oklahoma, Texas, and Arkansas—driven out of the dust-

bowl by successive crop failure and economic wreckage. Each shift in economic needs of California, and in the immigration race-policy of the United States, has had its powerful effect upon the racial composition of California's migratory labor. It is estimated that at the present time there are approximately "145,000 unfortunates in 3,500 labor camps."

### RACE, RELIGION, SOCIAL LIFE

Writers on every phase of social life touch more ardently but more gingerly upon the race problem in the United States. Will Durant in the *Saturday Evening Post* for August 5, 1939, in "The Crisis in Christianity," calls attention to the necessity, if Christianity is to survive, that it must build up "a great union of Christian sects . . . , a church vigorous with its new consolidated strength, . . . universal enough to gather into one fraternal fellowship all the racial groups in America, resolute enough to give to a reunited nation a moral code that will lift us out of the corruption and violence that threaten to consume our civilization."

### SOUTHERN NEGRO WORKERS IN NEW JERSEY

According to newspaper accounts, for several years past Negroes have been coming up from the South in increasing numbers for the New Jersey potato-digging season. The *New York Herald-Tribune* for Aug. 13, 1939, says: "it is estimated that there are 3,500 of them in Mercer, Middlesex and Monmouth Counties." There has been growing resentment among settled white workers against the presence of the migratory Negro workers during the harvest season, but the first inter-racial outrage took place on Aug. 11, 1939, when 12 white men "eleven of them masked and two of them armed raided Negro quarters on Raymond Dey's farm, two and a half miles from Cranbury." The raiders found a cabin with seven southern Negroes—five single men and one couple. They ordered the single men to "get back down South as fast as you can" and sent them



## RACE CONDITIONS IN THE UNITED STATES

scampering across the fields followed by gunshots. The couple were taken in an automobile several miles away, released and told to "go on back down South where you belong." A few weeks later the New Jersey courts sentenced the white men who attacked the Negroes to jail sentences.

### DECREASE OF NEGRO LYNCHINGS IN THE SOUTH

Lewis T. Nordyke in the *Survey Graphic* for November, 1939, presents the facts and a new attack against Negro lynchings. In 1930 there was organized the Association of Southern Women for the Prevention of Lynching. This, the author holds, is one more step in the final reconstruction work of the South growing out of the Civil War. In this connection it might be stated that northern tolerance for Negro lynching in the South was due to their belief that the lynchings were always due to Negro attacks on white women. The report states that between 1886 and 1930 there had been a total of 4,297 lynchings in the United States, most of them in the South, but only 21 per cent of the victims had been lynched for crimes against white women. The study continues with a statement that from 1922 to 1930 there had been 211 lynchings in the country, 204 of them in the South, but only 29 per cent of the victims had been accused of crimes against white women. In recent years lynchings have, for the South, run as follows: 1930—21; 1931—13; 1932—8; 1933—28; 1934—14; 1935—20; 1936—8; 1937—8, and 1938—6.

### MISSOURI LAW SCHOOL FOR THE NEGRO

In Missouri, as in the states of the Old South, the negro and white races are segregated in the public school systems. The law requires equal opportunities for all persons, regardless of race, in the public schools. In the college grade the State of Missouri maintains the Lincoln University of Jefferson City for negroes, to balance the State University at Columbia. The Supreme Court of the United States ruled that Lloyd L. Gaines, a

Missouri negro, had the right to attend the University of Missouri law school or its state-maintained equivalent. No law courses being offered at the Lincoln University, the State of Missouri was compelled to provide a law school somewhere for Missouri Negroes. The school was opened in St. Louis in September, 1939, as a department of the Lincoln University at Jefferson City. The Missouri legislature appropriated \$200,000 for its operation, from which sum headquarters were secured, 10,000 law books and four faculty members assembled. Thirty students marked the opening of the new attempt, which is "believed to be the first state-supported Negro law school in the country." An attempt, it is said, will be made to have the school credited by the American Association of Law Schools.

### HIGHER EDUCATION OF THE NEGRO

Anticipating further action by the several state supreme courts and possibly by the Supreme Court of the United States, supporting the right of the Negro in every state of the Union to have facilities for graduate and professional education equal to those furnished to the white residents of his own state, the leaders of 41 colleges and universities of the South met in Atlanta, Georgia, Oct. 31, 1939, to seek a solution for the problem which calls for Negro equality in this field. The committee with the matter in hand is headed by Dr. Harmon W. Caldwell, president of the University of Georgia. In view of the Missouri decision and the pending decision in Tennessee, Dr. Caldwell said: "I do not believe it is feasible to admit Negroes to Southern institutions used by white students just now. The most practical solution would be in setting up regional Negro universities to which all states in the region would contribute. This arrangement would relieve the states of tremendous if not prohibitive costs of establishing separate graduate schools." Several solutions were suggested, such as the possibility of designating Fisk University as a



## XIV. IMMIGRATION AND POPULATION

school for advanced professional study for the Negroes, each state paying a certain sum towards its maintenance. Another suggestion was that the states establish Negro land-grant colleges for instruction in law, medicine and graduate work.

### RACE STANDARDS OF THE AMERICAN BAR ASSOCIATION

According to current press reports the American Bar Association set up the white standard for its membership by excluding Negro applicants. As a reaction to this, during the 1939 meeting of the Association in New York, Stanley M. Isaacs, Borough President of Manhattan, addressed a special luncheon of the New York City Chapter of the National Lawyers Guild, including invited guests of the American Bar Association. In

his address Mr. Isaacs said: "I don't believe in segregation by race or creed, so it is unfortunate that an organization like the Bar Association has to exist. It is a lasting disgrace to the American Bar Association that they have set up the color barrier. . . . The rights and privileges of minority groups will survive only if they stand together. This is one reason the policy of the American Bar Association is so harmful to America."

Continuing his address Mr. Isaacs lauded Mayor LaGuardia for his appointment of Negroes to many high positions in the City of New York as an example of his democratic administration. Mr. Isaacs declared that the Mayor's purpose was to find the best person for the position, regardless of color.

## POPULATION STATISTICS

BY LEON E. TRUESDELL

CHIEF STATISTICIAN FOR POPULATION, U. S. BUREAU OF THE CENSUS

### POPULATION GROWTH

The population of continental United States on April 1, 1930, the

### POPULATION OF THE UNITED STATES

1790 to 1930

Census Year	Population	Increase over Preceding Censuses	
		Number	Per Cent
1930	122,775,046	17,064,426	16.1
1920	105,710,620	13,738,554	14.9
1910	91,972,266	15,977,691	21.0
1900	75,994,575	13,046,861	20.7
1890	62,947,714	12,791,931	25.5
1880	50,155,783	10,337,334	26.0
1870	*39,818,449	8,375,128	26.6
1860	31,443,321	8,251,445	35.6
1850	23,191,876	6,122,423	35.9
1840	17,069,453	4,203,433	32.7
1830	12,866,020	3,227,567	33.5
1820	9,638,453	2,398,572	33.1
1810	7,239,881	1,931,398	36.4
1800	5,308,483	1,379,269	35.1
1790	3,929,214	....	....

\* Revised figure.

date of the Fifteenth Census, was 122,775,046, as compared with 105,710,620 on Jan. 1, 1920, the date of the Fourteenth Census. In 1790, when the first census was taken, the population was only 3,929,214. Each subsequent decennial census up to 1860 showed an increase of about one-third over the preceding one; from 1860 to 1910 the decennial increase was around 20 or 25 per cent; for the last two census decades the figures have been only 15 or 16 per cent; and for the period from 1930 to 1940 the increase seems likely to be not more than 7 or 8 per cent.

One important factor in the recent slowing down of the population increase is the change in the situation with respect to immigration. Between 1920 and 1930 the average annual net immigration was around 300,000, while for a number of the years since 1930 emigration has considerably exceeded immigration. In fact, for the entire decade, the number of immigrants has been somewhat less than the number of emigrants.

# POPULATION STATISTICS

## BIRTHS AND DEATHS IN THE REGISTRATION AREA: 1920 TO 1938

(The birth registration area included 59.8 per cent of the total population of the country in 1920 and the death registration area 82.2 per cent; in 1933 both areas had been extended to include the entire country.)

Year	Births Registered			Deaths Registered			United States Totals— Partly Estimated for Years Prior to 1933 (Thousands)		
	Number	Rate per 1,000 Population		Number	Rate per 1,000 Population		Births	Deaths	Excess of Births over Deaths
		Annual	3-year Moving Average		Annual	3-year Moving Average			
1938	2,286,962	17.6	....	1,381,391	10.6	....	2,287	1,381	906
1937	2,203,337	17.0	17.0	1,450,427	11.2	11.1	2,203	1,450	753
1936	2,144,790	16.7	16.9	1,479,228	11.5	11.2	2,145	1,479	666
1935	2,155,105	16.9	16.9	1,392,752	10.9	11.1	2,155	1,393	762
1934	2,167,636	17.1	16.9	1,396,903	11.0	10.9	2,168	1,397	771
1933	2,081,232	16.6	17.1	1,342,106	10.7	10.9	2,081	1,342	739
1932	2,074,042	17.4	17.3	1,308,529	10.9	10.9	2,178	1,360	818
1931	2,112,760	18.0	18.1	1,322,589	11.1	11.1	2,232	1,374	858
1930	2,203,958	18.9	18.6	1,343,358	11.3	11.4	2,328	1,396	932
1929	2,169,920	18.9	19.2	1,386,363	11.9	11.8	2,291	1,448	843
1928	2,233,149	19.8	19.7	1,378,675	12.1	11.8	2,368	1,446	922
1927	2,137,836	20.6	20.3	1,236,949	11.4	11.9	2,440	1,352	1,088
1926	1,856,068	20.7	20.9	1,285,927	12.3	11.8	2,412	1,428	984
1925	1,878,880	21.5	21.6	1,219,019	11.8	12.0	2,467	1,360	1,107
1924	1,930,614	22.4	22.2	1,173,990	11.7	12.0	2,534	1,328	1,206
1923	1,792,646	22.2	22.5	1,193,017	12.2	12.0	2,478	1,360	1,118
1922	1,774,911	22.3	23.1	1,101,863	11.7	11.9	2,456	1,290	1,166
1921	1,714,261	24.2	23.5	1,032,009	11.6	12.2	2,622	1,253	1,369
1920	1,508,874	23.7	....	1,142,558	13.1	....	2,522	1,389	1,133

Further, the birth rate, which had fallen from 24.2 in 1921 to 18.9 in 1930, has continued to fall, until it reached a low point at 16.6 in 1933 (since which time it has increased a little). The net result of these changes has been to reduce the average annual increase of the population to about 900,000 as compared with about 1,700,000 between 1920 and 1930.

### ESTIMATES OF FUTURE POPULATION

On the basis of probable trends in the birth rate and the death rate, and assuming that there will be no considerable immigration from foreign countries, the population of the United States has been estimated or forecast for several decades into the future, as follows: for 1940, 132,000,000; for 1950, 139,000,000; for 1960, 144,000,000. Around 1980, under these assumed conditions, the population will reach its maximum and a slow decline will begin.

The most significant data on births

and deaths which need to be considered in any study of probable future trends in population are presented in the table above, which gives for each year from 1920 to 1938 the number of births and deaths reported in the registration area (which since 1933 has included all states), the annual rates per 1,000 of the population, and a three-year moving average rate.

### URBAN POPULATION

Of the total population of the United States in 1790 at the time of the first census, 201,655, or 5.1 per cent, lived in incorporated places of 2,500 or more—this being the definition of urban population established in 1910 and widely used both in census publications and elsewhere since that date. By 1850 the population had increased to 23,191,876, with 3,543,716, or 15.3 per cent, living in urban places. In 1900, out of a total population of 75,994,575, there were 30,159,921, or 39.7 per cent, living in

## XIV. IMMIGRATION AND POPULATION

urban places. In 1920, the urban population for the first time formed more than one-half the total; and in 1930, of the total population of 122,775,046, there were classified as urban 68,954,823, or 56.2 per cent. The figures representing the urban population for the 15 decennial censuses are summarized in the following table:

(Classification in accordance with method followed in 1930; the previously published figures for 1880 to 1920 revised accordingly)

Census Year	Total Population	Urban Population	
		Number	Per Cent of Total
1930	122,775,046	68,954,823	56.2
1920	105,710,620	54,157,973	51.2
1910	91,972,266	41,998,932	45.7
1900	75,994,575	30,159,921	39.7
1890	62,947,714	22,106,265	35.1
1880	50,155,783	14,129,735	28.2
1870	38,558,371	9,902,361	25.7
1860	31,443,321	6,216,518	19.8
1850	23,191,876	3,543,716	15.3
1840	17,069,453	1,845,055	10.8
1830	12,866,020	1,127,247	8.8
1820	9,638,453	693,255	7.2
1810	7,239,881	525,459	7.3
1800	5,308,483	322,371	6.1
1790	3,929,214	201,655	5.1

### URBAN POPULATION OF THE UNITED STATES: 1790 TO 1930

The progress of urbanization since 1850 in the various states is indicated by the figures in the table (p. 561) which shows the percentage of the population urban in 1850, 1900, and 1930, by states.

During the early decades of the century and a half since the first census, the trend of the percentage urban for the country as a whole was materially affected by the rapid addition of new areas of settlement in which at the beginning there were practically no urban places. By 1850, however, settlement was well under way in most of the states which have now attained a high percentage of urban population; and since that date the new and sparsely settled states have formed a smaller and smaller part of the total. The trend of the percentage urban in the country as a whole has been less affected, there-

fore, by the expansion of the settled area or by the beginning of urbanization in the newer states than it was in decades preceding 1850.

In 1930 there were 21 states in which more than half of the population was urban. The Census dates on which these states were first shown to have more than half their population living in urban territory may be of some significance as indicating the geographic progress of urbanization over the country. Massachusetts and Rhode Island were the first of these states, their population being returned as more than 50 per cent urban in 1850. New York was added to the list in 1870, New Jersey in 1880, Connecticut in 1890, and in 1900 Pennsylvania, Illinois, and California. At the beginning of the present century, therefore, there were only eight states in which the population was more than one-half urban. In 1910 New Hampshire, Ohio, Maryland, Colorado, and Washington were added to the list; in 1920, Indiana, Michigan, and Delaware; and in 1930, Wisconsin, Missouri, Florida, Utah, and Oregon.

### NATIVE POPULATION BY STATE OF BIRTH

One of the most interesting tabulations shown in the reports of the United States Census is that in which the native population is classified by state of birth in combination with state of residence. The complete tabulation showing, for example, the number of persons born in Iowa who in 1930 were living in California, occupies, of course, far too much space for reproduction here. A significant summary of these relations is presented, however, in the table, next page, which shows the native population of the United States at each census from 1850 to 1930, classified as born in the state where they were residing at the time of the census and born elsewhere, for the most part in other states.

### ABILITY TO SPEAK ENGLISH

Among the questions asked in the Census of 1930 were a number relat-

# POPULATION STATISTICS

## PERCENTAGE OF THE POPULATION URBAN, BY STATES 1850, 1900, AND 1930

State	1930	1900	1850	State	1930	1900	1850
United States.....	56.2	39.7	15.3	South Atlantic (Cont.):			
New England:				Virginia.....	32.4	18.3	7.1
Maine.....	40.3	33.5	13.5	West Virginia.....	28.4	13.1	...
New Hampshire....	58.7	46.7	17.1	North Carolina.....	25.5	9.9	2.4
Vermont.....	33.0	22.1	1.9	South Carolina.....	21.3	12.8	7.3
Massachusetts.....	90.2	86.0	50.7	Georgia.....	30.8	15.6	4.3
Rhode Island.....	92.4	88.3	55.6	Florida.....	51.7	20.3	...
Connecticut.....	70.4	59.9	16.0	East South Central:			
Middle Atlantic:				Kentucky.....	30.6	21.8	7.5
New York.....	83.6	72.9	28.2	Tennessee.....	34.3	16.2	2.2
New Jersey.....	82.6	70.6	17.6	Alabama.....	28.1	11.9	4.6
Pennsylvania.....	67.8	54.7	23.6	Mississippi.....	16.9	7.7	1.8
East North Central:				West South Central:			
Ohio.....	67.8	48.1	12.2	Arkansas.....	20.6	8.5	...
Indiana.....	55.5	34.3	4.5	Louisiana.....	39.7	26.5	26.0
Illinois.....	73.9	54.3	7.6	Oklahoma.....	34.3	7.4	...
Michigan.....	68.2	39.3	7.3	Texas.....	41.0	17.1	3.6
Wisconsin.....	52.9	38.2	9.4	Mountain:			
West North Central:				Montana.....	33.7	34.7	...
Minnesota.....	49.0	34.1	...	Idaho.....	29.1	6.2	...
Iowa.....	39.6	25.6	5.1	Wyoming.....	31.1	28.8	...
Missouri.....	51.2	36.3	11.8	Colorado.....	50.2	48.3	...
North Dakota.....	16.6	7.3	...	New Mexico.....	25.2	14.0	7.4
South Dakota.....	18.9	10.2	...	Arizona.....	34.4	15.9	...
Nebraska.....	35.3	23.7	...	Utah.....	52.4	38.1	...
Kansas.....	38.8	22.4	...	Nevada.....	37.8	17.0	...
South Atlantic:				Pacific:			
Delaware.....	51.7	46.4	15.3	Washington.....	56.6	40.8	...
Maryland.....	59.8	49.8	32.3	Oregon.....	51.3	32.2	...
District of Columbia	100.0	100.0	93.6	California.....	73.3	52.3	7.4

## NATIVE POPULATION BORN IN STATE OF RESIDENCE AND ELSEWHERE: 1850-1930

Census Year	Total Native Population	Born in State of Residence		Born Else- where, Per Cent
		Number	Per Cent	
1930	108,570,897	82,677,619	76.2	23.8
1920	91,789,928	71,071,013	77.4	22.6
1910	78,456,380	61,185,305	78.0	22.0
1900	65,653,299	51,901,722	79.1	20.9
1890	53,372,703	41,871,611	78.5	21.5
1880	43,475,840	33,882,734	77.9	22.1
1870	32,991,142	25,321,340	76.8	23.2
1860	23,353,386	17,527,069	75.1	24.9
1850	17,742,961	13,457,049	75.8	24.2

ing specifically to the foreign-born white which are not to be repeated in 1940, partly because of the rather rapid present and prospective decrease in the number of foreign born. Among these questions was one on ability to speak English, which was tabulated in 1930 in combination with country of birth. The results of this

inquiry are presented in the table, next page, for the more important non-English speaking countries, arranged in order of the percentage unable to speak English:

It may be noted that most of the countries showing a high percentage of immigrants who had not learned to speak English are countries from which a large percentage of the immigrants counted in the census were of relatively recent arrival, while among the countries with very low percentages of inability to speak English are those whose main contribution to the population of the United States was made several decades ago, as, for example, the Scandinavian countries and Germany.

## GAINFUL WORKERS BY OCCUPATION

The distribution of the gainful workers in the United States into broad occupational classes is shown in the following table for the census years 1870, 1900, and 1930:



# XIV. IMMIGRATION AND POPULATION

## FOREIGN-BORN WHITE POPULATION OF THE UNITED STATES UNABLE TO SPEAK ENGLISH

(By country of birth, 1930)

Country of Birth	Foreign-born White 10 Years Old and Over	Unable to Speak English		Country of Birth	Foreign-born White 10 Years Old and Over	Unable to Speak English	
		Number	Per Cent			Number	Per Cent
All countries.	13,216,928	869,865	6.6	Canada-French	360,724	31,701	8.8
Denmark.....	178,212	1,584	0.9	Yugoslavia.....	210,141	19,368	9.2
Sweden.....	592,291	9,116	1.5	Syria.....	56,870	5,244	9.2
Norway.....	345,231	8,012	2.3	Greece.....	173,531	17,426	10.0
Switzerland.....	112,240	2,865	2.6	Czechoslovakia	487,794	52,230	10.7
Germany.....	1,589,249	45,694	2.9	Lithuania.....	193,196	20,936	10.8
Netherlands.....	131,439	4,168	3.2	Finland.....	142,060	15,411	10.8
Belgium.....	63,577	2,088	3.3	Poland.....	1,262,892	161,711	12.8
France.....	133,857	5,275	3.9	Italy.....	1,769,705	277,010	15.7
Austria.....	369,192	20,228	5.5	Spain.....	57,957	11,305	19.5
Rumania.....	145,037	9,033	6.2	Portugal.....	69,535	16,114	23.2
Russia.....	1,150,441	72,800	6.3	All other coun- tries.....	3,348,780	38,930	1.2
Hungary.....	272,977	21,616	7.9				

## GAINFUL WORKERS 10 YEARS OLD AND OVER, BY GENERAL DIVISIONS OF OCCUPATIONS

General Divisions of Occupations	1930		1900		1870	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Total.....	48,829,920	100.0	29,073,233	100.0	12,924,951	100.0
Agriculture.....	10,471,998	21.4	10,911,998	37.5	6,849,772	53.0
Forestry and fishing.....	250,469	0.5	209,539	0.7	60,231	0.5
Extraction of minerals.....	984,323	2.0	694,352	2.4	186,616	1.4
Manufacturing and mechanical indus- tries.....	14,110,652	28.9	7,199,208	24.8	2,643,417	20.5
Transportation and communication..	3,843,147	7.9	1,952,436	6.7	540,167	4.2
Trade.....	6,081,467	12.5	3,084,511	10.6	878,558	6.8
Public service (not elsewhere classified)	856,205	1.8	283,759	1.0	89,749	0.7
Professional service.....	3,253,884	6.7	1,180,501	4.1	342,107	2.6
Domestic and personal service.....	4,952,451	10.1	2,819,443	9.7	1,252,715	9.7
Clerical occupations.....	4,025,324	8.2	737,486	2.5	81,619	0.6

The most significant trend shown by these statistics is the striking movement of workers from agricultural to nonagricultural pursuits. In 1870, 53 per cent of all gainful workers were in agriculture as compared with only 21.4 per cent in 1930. To offset this decrease there have been marked increases in the percentage of the labor force employed in manufacturing, transportation, trade, and especially in clerical occupations where the percentage increased from 0.6 in 1870 to 8.2 in 1930.

## STATISTICAL SUMMARIES

Population data under a number of other important classifications such as color and nativity, country of origin, size of family, and value or rental of home are contained in the articles on population in THE AMERICAN YEAR BOOK, 1932 (pp. 523-531); 1933 (pp. 577-583); 1934 (pp. 548-554); 1935 (pp. 532-538); 1936 (pp. 540-545); 1937 (pp. 545-550); and 1938 (pp. 543-549). The most compact official publication providing a fairly complete summary of the popu-

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

lation statistics is the *Abstract of the Fifteenth Census*. A briefer set of summary tables is contained in the *Statistical Abstract* which may be available in some libraries not having the *Census Abstract*.

The data on state of birth, referred to above, are to be found in Volume II of the *Fifteenth Census Reports on Population*, pp. 135 to 221; this

chapter is also available from the Census Bureau in the form of a pamphlet entitled *State of Birth, 1930*. Comparable figures for the distribution of the nation's labor force by general divisions of occupations for each census from 1870 to 1930 are contained in a Census Bureau release entitled *Industrial Distribution of the Nation's Labor Force: 1870 to 1930*.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN COLONIZATION SOCIETY, 516 Colorado Bldg., Washington, D.C.  
 AMERICAN ETHNOLOGICAL SOCIETY, American Museum of Natural History, New York City.  
 AMERICAN JEWISH COMMITTEE, 461 Fourth Ave., New York City.  
 ANCIENT ORDER OF HIBERNIANS, 1648 Westmont Ave., Pittsburgh, Pa.  
 CENTRO VASCO AMERICANO SOCIETY, 48½ Cherry St., New York City.  
 ENGLISH-SPEAKING UNION OF THE U.S., 30 Rockefeller Plaza, New York City.  
 FEDERATION DE L'ALLIANCE FRANÇAISE, 22 E. 60th St., New York City.  
 FEDERATION OF POLISH JEWS IN AMERICA, 225 W. 34th St., New York City.  
 HEBREW SHELTERING AND IMMIGRANT AID SOCIETY OF AMERICA, 425 Lafayette St., New York City.  
 HOLLAND SOCIETY OF N.Y., 90 West St., New York City.  
 HUGUENOT SOCIETY OF AMERICA, 2 W. 45th St., New York City.  
 HUNGARIAN SOCIETY OF N.Y., 270 West 89th St., New York City.  
 INDIAN RIGHTS ASSN., 301 S. Seventeenth St., Philadelphia, Pa.  
 JAPANESE ASSN., INC., 1819 Broadway, New York City.  
 JEWISH NATIONAL WORKERS' ALLIANCE OF AMERICA, 251 Fourth Ave., New York City.  
 JEWISH WELFARE BOARD, 220 Fifth Ave., New York City.

LAKE MOHONK INDIAN CONFERENCE, Lake Mohonk, N.Y.  
 LITHUANIAN ALLIANCE OF AMERICA, 307 W. 30th St., New York City.  
 NATIONAL ASSN. FOR ADVANCEMENT OF COLORED PEOPLE, 69 Fifth Ave., New York City.  
 NATIONAL COUNCIL OF JEWISH WOMEN, 1819 Broadway, New York City.  
 NATURALIZATION AID LEAGUE, 175 E. Broadway, New York City.  
 NETHERLAND-AMERICA FOUNDATION, 630 Fifth Ave., New York City.  
 ORDINE FIELI D'ITALIA IN AMERICA, 225 Lafayette St., New York City.  
 POLISH NATIONAL ALLIANCE, 142 Grand Ave., Brooklyn, New York City.  
 RUSSIAN NATIONAL SOCIETY, 5 Columbus Circle, New York City.  
 SCRIPPS FOUNDATION FOR RESEARCH IN POPULATION PROBLEMS, Miami University, Oxford, O.  
 SONS OF ITALY, 377 Broadway, New York City.  
 UNITED ROUMANIAN JEWS OF AMERICA, INC., 799 Broadway, New York City.  
 YOUNG JUDEA, INC., 111 Fifth Ave., New York City.  
 YOUNG MEN'S HEBREW ASSN., Lexington Ave. and 92nd St., New York City.  
 YOUNG WOMEN'S HEBREW ASSOCIATION, 31 West 110th St., New York City.  
 ZIONIST ORGANIZATION OF AMERICA, 111 Fifth Ave., New York City.

## DIVISION XV

### SOCIAL PROBLEMS AND CONDITIONS

#### PUBLIC AND PRIVATE SOCIAL WORK

BY FRED K. HOEHLER \*

DIRECTOR, AMERICAN PUBLIC WELFARE ASSOCIATION

##### PUBLIC RESPONSIBILITY

It is now generally understood that the provision of relief for dependent persons is a public responsibility. Private agencies, while they hold that some relief funds are necessary in conjunction with family social work, have generally disavowed responsibility for meeting the basic economic needs of families. At present less than five per cent of the total relief is administered through private agencies. While most public agencies recognize that social work is a necessary part of relief administration and that public agencies have some responsibility for the prevention of family breakdown and the preservation of morale and independence, only a few public agencies are prepared to offer complete family service. Private agencies are accordingly organizing programs of service rather than of relief.

##### COORDINATION OF SERVICES

The operation of both types of agencies in the welfare field naturally calls for close cooperation if duplication and overlapping are to be avoided. For some time many cities have had councils of social agencies or community councils through which all social agencies work to preserve a co-ordinated program of maximum usefulness. Clarence King, writing of this development in the *Social Work*

*Yearbook* for 1939, says: "During the early development of councils in large cities, the large private agencies with the well-trained executives and influential boards tended to dominate the council or at least to supply most of the leadership in its discussions and activities. Public agencies such as the departments of welfare, health, education, recreation, parks, libraries, and the juvenile court were generally represented and sometimes also the police department and local branches of state agencies, but they were always in the minority, and their board members were seldom active.

"With the growth of governmental appropriations and staff during the depression the influence and leadership of public agency representatives in councils have increased. Councils have been influential in securing increased acceptance of social work as a governmental function on the part of voters and taxpayers. In many communities councils have led in successful campaigns to improve standards in public welfare departments."

Such organizations as these provide machinery for inter-agency cooperation not only in general planning but also in day-to-day administration. Many councils of social agencies maintain social service exchanges where a central index is kept for the purpose of clearing applications for assistance and service. In this way, costly duplication and overlapping of service is avoided.

\* Assisted by Ralph E. Spear, Consultant, American Public Welfare Association.

**PRIVATE AGENCY PROGRAMS**

The function of the private social agency is not completely defined, but a review of the past year or two reveals definite trends which are indicative of the direction in which they are moving. As noted above, private agencies are planning increasingly on service programs. The public relief program is in general aimed at the person whose real and pressing economic need has been established.

Herbert Aptekar, writing in the November, 1939 issue of *The Family*, says: "It is my belief that public relief can be administered with an understanding and appreciation of its meaning to the client. However, it must remain relief *as such*, that is to say, relief for maintenance based upon strict eligibility requirements of an objective nature. Our society as a whole has not yet reached the point where it will grant financial assistance in relation to psychological rather than objective needs. Since society as a whole will not support relief on such a basis, it remains for the private agency (always a forerunner in general community development) to do so."

This is the keynote of the present trend in private social work. The activity is new and different, but the character of the private agency function remains the same. It should be remembered that much of what is now included in public social programs is a result of the decades of work of private agencies in demonstrating need and in furnishing courageous leadership and sound convictions. This has been the end-product of the pioneering efforts of agency staff and board members in developing programs, training personnel, and putting social planning into effect. It has been a healthy sign that throughout the past few years so much of the professional literature in the private social work field has dealt with a re-examination of the role of the private agency in the whole social welfare program. New needs are being recognized and organizations planned along the lines of maximum usefulness.

It has been increasingly apparent that the psychiatric approach to so-

cial welfare problems has much to offer. As yet, however, the exact nature of its most effective contribution has not been determined. Consequently, private agencies have been using psychiatric social workers and have thus been building up a sound background of experience as a basis for planning future programs.

**PLANNING PREVENTIVE SERVICES**

An important feature of private social work has been an increasing concern with the prevention of dependency and delinquency. Early in 1939 a concrete step was taken in the direction of planning an approach to prevention. A monograph entitled *Social Breakdown: A Plan for Measurement and Control* was prepared by Bradley Buell of Community Chests and Councils, Inc. The publication had two main purposes: "To suggest a basis for measuring the volume and trend of social breakdown in the community; and to outline systematic procedures by which social agencies, through coordinating their service, can better control and prevent this breakdown." Mr. Buell suggests that a rate of social breakdown may be established through a combination of statistics on crime, delinquency, mental disease, divorce, neglect, unemployability, and mental deficiency. Through earlier discovery of cases and the referral of cases to the proper agency by a special committee of the council of social agencies, it is felt that social treatment will be more prompt and more appropriate. The effectiveness of this approach would then be susceptible to periodic measurement in terms of the rate of social breakdown described above. While this plan has not been in operation long enough to prove its value, it is an important contribution and added evidence of increasing concern of the private agencies with problems of preventive service.

Another growing interest of private social workers has been in the development of public welfare programs. Professional workers and board members of private agencies have seen the need for supporting public programs



## XV. SOCIAL PROBLEMS AND CONDITIONS

in their capacities as private citizens. More and more they have recognized that public welfare is a part of government and that government is inevitably influenced to a greater or lesser degree by partisan political considerations. Private agency workers have been increasingly effective in their insistence on sound planning, adequate organization, and competent staffs for public welfare programs. At the National Conference of Social Work in June, 1939, the group was urged by at least one speaker to "go into politics" as a means of protecting these vital public services.

### EXPANDING GOVERNMENT SERVICES

The past several years have been important ones in the development of public welfare programs. They have been years of change in organization, legislation, administration, and responsibility for services. In the early years of the depression, there was a rapid shifting of the major responsibility for dealing with unemployment relief from local to state governments and from the states to the Federal Government. The story of Federal participation in the program is an important part of the total of recent developments.

As early as April, 1933 the Civilian Conservation Corps was organized to provide employment for young men, preferably from needy families, and to carry on a program of conservation. In May, 1933, the Federal Emergency Relief Administration was set up to provide Federal aid to the states in providing relief to the unemployed. The Federal Surplus Commodities Corporation was incorporated in October of the same year, and the announcement was made that surplus commodities would be available for distribution to relief families. It was stipulated, however, that these commodities must be granted in addition to the regular family relief budget, not considered a part of it.

From November, 1933 to March, 1934 employment was provided for about 4,000,000 persons through the Civil Works Administration. This program was succeeded by the emer-

gency work relief program organized as a regular part of the Federal Emergency Relief Administration activities.

With a few minor exceptions, the relief problem during the years 1933 and 1934 was attacked through the Federal Emergency Relief Administration, Civil Works Administration, Civilian Conservation Corps, Public Works Administration, and Federal Surplus Commodities Corporation. In January, 1935, came an important announcement of Federal policy. In his message to Congress, the President said that "work must be found for able-bodied but destitute workers" and "the Federal Government must and shall quit this business of relief." The first important step in line with the new Federal policy came in May, 1935, with the establishment of the Works Progress Administration. Under the terms of the executive order creating it, the Works Progress Administration was to be "responsible to the President for the execution of the work relief program as a whole. . . ." In the following month the National Youth Administration was established within the Works Progress Administration to deal with the special work problems of the nation's youth.

### SOCIAL SECURITY

In August, 1935 the cornerstone was laid for a permanent program of social security jointly provided by the Federal and state governments. In that month the Social Security Act was passed by Congress and signed by the President. The act was an omnibus measure providing a Federal program of old age insurance, and enabling the states to participate in federally aided programs of unemployment compensation, old age assistance, aid to the needy blind, aid to dependent children, child welfare services, crippled children's services, maternal and child health services, vocational rehabilitation, and public health work. The assistance programs for the aged, blind, and dependent children represented a declaration of Federal policy of continuing participation in assistance to some groups

## PUBLIC AND PRIVATE SOCIAL WORK

of needy persons considered unemployable.

In December, 1935 the direct relief program of the Federal Emergency Relief Administration was discontinued, and the burden for this type of assistance was shifted to the states and the local communities. The Federal Government continued to provide a work relief program through the Works Progress Administration and the National Youth Administration, and continued aid to the states for the relief of some "unemployables" under the terms of the Social Security Act.

### FEDERAL CHANGES IN 1939

The Federal program was carried on through the agencies mentioned above without important changes until 1939 when there were several important revisions on the Federal level of government. Early in the year most of the Federal agencies concerned with public welfare were consolidated in a new agency called the Federal Security Administration. This new agency includes: the United States Employment Service, transferred from the Department of Labor; the Office of Education, from the Department of the Interior; the United States Public Health Service, from the Department of the Treasury; the National Youth Administration, from the Works Progress Administration; the Social Security Board; and the Civilian Conservation Corps. The Works Progress Administration was made a part of the new Federal Works Agency.

Later in the year came two Congressional acts which will have a profound effect upon the operation of public welfare programs throughout the country. The first was the revision of the Federal work program. The name of the Works Progress Administration was changed to Work Projects Administration and the appropriation for its program was drastically cut. Between April and September, 1939 more than 1,000,000 persons were separated from W.P.A. employment, a reduction in the April total of about 40 per cent. This reduction resulted from a planned pol-

icy of lay-offs and non-acceptance of new certifications and not from placement of individuals in private employment. The hardship caused by this reduction was not eased by the general relief program, as the total receiving general relief remained about the same during this period.

It would be a mistake to assume, however, that the general relief program was unaffected by these changes. Their impact on local organizations responsible for general relief was reflected in increased applications unaccompanied by increased funds. The results were varied in different places. In some, there was a rapid turnover of cases; in others relief standards were lowered; and in still others restrictive policies of eligibility were adopted. For the first time since 1933, reports of pitifully inadequate relief, of starvation, came from widely scattered communities all over the country.

### SOCIAL SECURITY ACT AMENDMENTS

The other Congressional act held greater promise for increased security for the people. This included several far-reaching amendments to the Social Security Act. The public assistance features were liberalized in several respects. The maximum Federal reimbursement on individual grants for old age assistance and aid to the needy blind was raised from \$15 to \$20 per month; the Federal share of the cost of aid to dependent children was raised from one-third to one-half; and the maximum age limit was raised from 16 to 18 years, provided the dependent child being aided is regularly attending school. In addition, increased Federal funds were made available for maternal and child health services, crippled children's services, vocational rehabilitation, and public health services. The further extension of this economic aid to children promises to ease local burdens of general relief and to make more nearly adequate family budgets possible in many cases.

The old age insurance provisions of the act were considerably altered. They originally provided only a re-

## XV. SOCIAL PROBLEMS AND CONDITIONS

tirement income for the worker himself after the age of 65, or, in case of his death, the payment of a lump-sum death benefit to his heirs. The amended act now provides for partial monthly benefits for widows over 65, widows caring for dependent children, children under 18, and dependent parents in cases where there is neither a surviving widow nor children under 18. Regular monthly benefits have been extended to cover certain dependent family members in addition to the insured worker. Furthermore, the system itself has been broadened, and coverage extended to workers now over 65, seamen on American vessels, and certain bank employees.

The minimum benefit payable to a single worker upon retirement remains at \$10 per month, but benefits for persons of short working experience are now figured on a more liberal scale.

The act had provided originally that the tax on wages should increase from one per cent for both employer and employee in 1936, 1937, and 1938 to one-and-one-half per cent in 1939, 1940, and 1941. Congress, despite contrary recommendations from both the Social Security Board and the Social Security Advisory Council, voted to "freeze" the rate of contribution at one per cent for the next three years, reducing the anticipated revenue by approximately \$825,000,000.

Similar modifications of the unemployment compensation program were made by Congress. Coverage was extended to include roughly 200,000 employees of national banks and building and loan associations, and certain exemptions were made. In general, these changes were designed to bring the coverage of the unemployment compensation system into conformity with that of the old age and survivors' insurance program.

Employers were saved about \$65,000,000 per year by an amendment providing that payroll taxes apply only to the first \$3,000 per year of any individual employee's wages. Such a provision had previously applied to the old age and survivors' insurance system. An additional saving to employers of \$15,000,000 was

anticipated as a result of Congressional approval of refunds to employers who were late in paying contributions to state unemployment compensation funds in 1936, 1937, and 1938. A few other minor amendments were expected to make easier industry's responsibilities for bookkeeping. Another amendment, described below, requires state unemployment compensation agencies to maintain merit systems for the selection and management of their employees.

Another far-reaching amendment was that relating to personnel administration in state and local public assistance agencies. The original act specifically exempted personnel from any Federal control of standards by providing that a state plan must "provide such methods of administration (other than those relating to selection, tenure of office, and compensation of personnel) as are found by the Board to be necessary for the efficient operation of the plan." The amended provision reads . . . "such methods of administration (including after Jan. 1, 1940, methods relating to the establishment and maintenance of personnel standards on a merit basis, except that the Board shall exercise no authority with respect to the selection, tenure of office, and compensation of any individual employed in accordance with such methods) as are found by the Board to be necessary for the proper and efficient administration of the plan." This change is particularly far-reaching, as it affects plans for the administration of old age assistance, aid to the needy blind, aid to dependent children, maternal and child health services, services for crippled children, and for the administration of unemployment compensation in the states. It will result in the operation of some sort of merit system in every county in the country.

### **SURPLUS COMMODITY STAMP PLAN**

The year 1939 also saw the inauguration, on an experimental basis, of a new plan for the distribution of surplus commodities. Under the old plan, the Federal Surplus Commodity



ties Corporation purchased certain commodities when prices fell so low as to indicate that there was a surplus. These commodities were then delivered to distribution depots maintained by state and local public welfare agencies. Recipients of various types of public assistance were then certified as eligible to receive surplus commodities, and the commodities were either called for by or delivered to the eligible persons.

Under the new plan, generally known as the "stamp plan," this whole distribution structure is eliminated and surplus commodities are handled through the regular channels of trade. Under this plan, blue and orange food stamps are used. Eligible persons are allowed to purchase, from their assistance grants or their work relief earnings, orange stamps which may be used to make any food purchases. For each two dollars' worth of orange stamps a person buys, he receives free one dollar's worth of blue stamps. The blue stamps may be used only for the purchase of surplus commodities. Both blue and orange stamps are redeemable by both wholesale and retail grocers at the local banks.

Under this new plan, instead of purchasing commodities when falling prices indicate a surplus, the Federal Surplus Commodity Corporation merely adds the name of such a commodity to the surplus list. It then becomes possible for the person receiving assistance to use blue stamps for the purchase of this commodity. Experimentally, the plan has been extended in one county to persons of low income who are not receiving public aid.

The stamp plan has the advantage of allowing more freedom of choice to the client in the selection of surplus food stuffs, while making it possible for both wholesaler and retailer to realize a profit on the transaction. Its drawbacks are chiefly that it is more expensive than the old plan, and that it is open to abuse by local grocers. Their full cooperation is essential. It has also been reported that in some communities the much-publicized "stamp plan" has resulted in a

reduction of the regular food allowances in family relief budgets, the supposition being that the value of the surplus commodities should be considered a part of the food allowance. This, of course, would nullify the whole purpose of the Federal Surplus Commodities Corporation, which is to increase the consumption of food products. At the end of the year, however, the advantages of the stamp plan seem to outweigh its disadvantages, and it was anticipated that the plan would be in operation in 100 cities early in 1940.

#### WELFARE PROGRESS IN THE STATES

Obviously, not all the significant changes during the year were in Federal programs. Important and significant modifications have been made in state public welfare legislation. An analysis of the year's new and amended statutes, made by the American Public Welfare Association, shows that a total of 653 laws, exclusive of unemployment compensation statutes, were enacted in 1939. The largest group of bills enacted (177) pertained to financing of public welfare programs. Acts relating to public assistance, including general relief, old age assistance, aid to the needy blind, and aid to dependent children, were next, with a total of 150. A continuing interest in the organization of agencies to provide effective administration was indicated by 132 new or revised legislative enactments. Laws on medical care totalled 59; those on personnel administration in public welfare agencies, 50; those relating to child welfare, 41; and the other 44 dealt with a number of miscellaneous subjects.

In line with a general trend in the direction of public economy, few new taxes were assessed by the legislatures during the year. Most of the appropriations for public welfare purposes came from general revenues, an encouraging indication that public welfare is being looked upon as a regular function of government and that its needs are being planned for on a continuing basis. In a few states, however, there were legislative



## XV. SOCIAL PROBLEMS AND CONDITIONS

earmarkings of funds, particularly for old age assistance. Sales tax revenues are to be used in Utah, and similar consumers' taxes in Oklahoma and Wyoming. Iowa, with an expanded program of old age assistance, will for the coming year draw on income, corporate, and sales tax revenues. In Nebraska, a percentage of the gasoline tax is being set aside for this purpose. Funds are being raised for public welfare programs, but nothing was done during 1939 to lessen the need for a thorough and scholarly consideration of the whole tax structure, resulting in sound recommendations for balanced revenue systems and an equitable division of costs, especially of those services like public welfare which are financed by Federal, state, and local governments.

State old age assistance laws generally were liberalized during the year, but none of the fantastic pension schemes was passed. The "\$30 every Thursday" plan, however, came close in California, with nearly 45 per cent of the popular vote. Most of the liberalizing of old age assistance programs during 1939 took the form of extensions to groups not previously eligible. In North Carolina, North Dakota, South Dakota, Oregon, and West Virginia, citizenship was eliminated as a condition of eligibility. West Virginia and North Carolina eased their residence requirements for eligibility for old age assistance, but the reverse was true in Kansas. A new provision in Oregon permits the continued payment of assistance to aged recipients who move out of the state with the permission of county officials.

Comparatively little state legislation dealt with aid to the needy blind. The few laws that were enacted dealt with liberalization of the program. Iowa permitted larger individual grants, and greater independent income was allowed the eligible applicant. Vermont, Oregon, and Maryland also liberalized their laws in other respects.

Similar developments were noted in legislation affecting programs of aid to dependent children. Age limits for eligibility were raised in many states,

and maximum grants raised in many more as a result of the changes in the Federal Social Security Act.

General relief legislation was made up mainly of appropriation acts. It was an unfortunate year for these measures for several reasons. Signs of business recovery created false optimism about the prospects of reducing relief costs. While there was a general business improvement, it did not materially affect the need for relief, and relief administrators were faced late in the year with real crises because of lack of funds. A further complicating factor was the drastic reduction in the W.P.A. quotas, as a result of decreased Federal appropriations. In the face of such a complete lack of consistency of Federal policy, planning for general relief needs remains extremely difficult for the states.

### STATE ADMINISTRATIVE REORGANIZATION

Agency reorganizations were accomplished by legislative action in a number of states. New state departments of public welfare were established or substantial changes made in existing agencies in Idaho, Maryland, Michigan, Minnesota, Oregon, Rhode Island, Texas, Iowa, Kansas, Maine, Tennessee, and Washington. Other states made organizational changes of minor importance. It is difficult to discover trends of importance in these changes, since some states have split integrated departments into two or more agencies, while others have integrated several previously independent programs in one new department. It may be significant, however, that two states, Minnesota and Kansas, have turned to administrative boards patterned somewhat after the Social Security Board, despite the growing feeling among administrative experts that the administrative board is unwieldy and less effective than the single responsible administrator.

The work of the Interdepartmental Committee to Coordinate Health and Welfare Activities was reflected in increased legislative interest in problems of medical care. Maine, New Mexico, and Rhode Island passed

legislation permitting the incorporation of non-profit hospital insurance plans. New York State continued its commission to study the problem of medical care in the state, and a report is expected early in 1940. Many states had bills in preparation in the event that the Wagner Health Bill were passed by Congress. There was apparent a real and constructive interest in the problem of adequate medical care.

New state civil service systems were provided in Alabama, Minnesota, New Mexico, and Rhode Island during the year, while in Arkansas the relatively new civil service law was repealed. Public welfare legislation provided for the establishment of various kinds of departmental merit systems in Kansas, Idaho, and Vermont.

Relatively little legislation relating to child welfare was enacted during 1939, but several states did extend educational opportunities for crippled children, as in California, New Hampshire, New York, Ohio, and Vermont. A Michigan law provides additional medical and surgical treatment for children with remedial defects. Montana, Nevada, and North Carolina strengthened the supervision over placement of children in boarding and foster homes.

#### STATISTICAL

The picture of public welfare in 1939 is incomplete without some indication of the number of persons receiving public aid and the relative benefits they receive. This is written too soon after the close of the year for any summary figures to be available, but it is possible, and perhaps just as informative, to consider the statistics for one month in the middle of the year. The available data are, of course, open to some question, since it is impossible to tell how many persons may derive benefits from more than one program or the number of persons who may be aided indirectly. The available data indicate how many cases receive general relief, how many subsistence payments are made by the Farm Security Administration, how many per-

sons are employed by the Work Projects Administration, but they do not reveal how many family members are dependent upon such assistance and earnings.

In June, 1939, a total of 7,677,000 persons received either assistance or earnings under the following programs: old age assistance, aid to the needy blind, aid to dependent children, general relief, the Civilian Conservation Corps, the Work Projects Administration, the National Youth Administration, the Public Works Administration, and the Farm Security Administration (included only to the extent that it makes subsistence payments to farmers).

The distribution of benefited individuals among the several programs enumerated above is indicated by the following analysis. Of each 100 persons receiving such aid in June, 1939, 34 were employed by the Work Projects Administration; 29 received some special type of public assistance under the Social Security program; 20 received general relief through local or state programs; six were employed on construction projects supported wholly or in part by Federal funds; four received student aid through the National Youth Administration; three were employed on National Youth Administration work projects; three were employed by the Civilian Conservation Corps; and one received subsistence payments from the Farm Security Administration.

During the same month, a total of \$304,279,000 was distributed as assistance and earnings under these programs. An analysis of the manner in which the money was distributed shows, as might be expected, that the persons working full time received a larger share than those simply receiving relief.

The 34 per cent employed by the Work Projects Administration received 46 per cent of the money; the 29 per cent receiving public assistance under the Social Security Act received 16 per cent; the 20 per cent receiving general relief received 12 per cent; the 6 per cent employed on federally supported construction projects received 18 per cent; the 4 per

## XV. SOCIAL PROBLEMS AND CONDITIONS

cent receiving National Youth Administration student aid received  $\frac{1}{2}$  of 1 per cent; the 3 per cent employed on National Youth Administration work projects received 1 per cent; the 3 per cent employed by the Civilian Conservation Corps received 6 per cent; and the 1 per cent receiving Farm Security Administration subsistence payments received  $\frac{1}{2}$  of 1 per cent.

### INADEQUACY OF GENERAL RELIEF

Considering that most general relief cases are family cases and that the categorical assistance grants are made chiefly on behalf of individuals, it is readily apparent from the above listing that general relief is the step-child among these programs. The program is continually visited with the pious hope that impending business recovery will melt the problem into nothing. This view has characterized legislative planning for the past several years, but it was especially dominant in 1939. One thing that the year showed clearly is that the need for general relief will be diminished only by the most prodigious increases in employment. Re-employment in private industry first affects the several million persons who are unemployed but who are not receiving any public aid. Its effect will be next felt by those employed by the Work Projects Administration, and only when the employment needs of those groups have been met will there be any appreciable change in the need for general relief.

Failure to recognize this fact made the year 1939 a stormy one in the general relief field. Proved need for relief so greatly exceeded the available resources that arbitrary reductions in relief standards were necessary in Chicago; during the third quarter of the year the relief budget was at 65 per cent of a minimum subsistence, and the newspapers carried many stories of malnutrition and starvation. An acute shortage of funds in Cleveland stirred the nation late in the year as reports of arbitrary restrictions on eligibility were issued. The policy of denying relief to single

persons was followed by the refusal of assistance to childless couples, in an attempt to make the available funds last until the year's end. These were only two of the many cities in a similar plight.

Local public welfare administrators, more than anyone else, saw a pressing need for stabilization of the general relief program. Meeting in Washington at the Round Table Conference of the American Public Welfare Association, more than 100 local administrators unanimously requested the appointment of a national commission similar to the British Royal Commission, which would be representative of as many as possible of the interests in our national life, to conduct an inquiry into the whole problem of public assistance. It was the hope of the group that such a commission would then be in a position to put forward a sound and statesmanlike program to meet needs at present not satisfactorily met. Late in the year, a technical study of the problems of public relief and assistance programs was started by the National Resources Planning Board. Since this study is just under way, nothing can be said about its work, but the fact that it has been undertaken is indicative of the importance of the suggestion noted above.

One indication of the vitality of any field of endeavor is the concern felt in that field for related problems. The interest of public welfare officials during 1939 in their relationships to the programs of public housing and public medical care was a heartening sign. Recognizing that both the subjects and the administration of public welfare and public housing have many interrelationships with public welfare, a group of progressive officials in the housing and welfare fields met early in the year to discuss their common problems. One of the most interest-compelling questions raised by that conference was the question of the effect of payment of relief rentals on housing standards. The following quotation is taken from the summary of that discussion:



"It is clearly recognized among welfare and housing officials that in some instances rents paid from relief funds constitute the greatest single subsidy to the maintenance of substandard housing conditions. The public often gets the erroneous impression that welfare authorities find substandard dwellings acceptable since they expend public funds in payment of rents for them, and remain unaware that effective work on the part of welfare agencies in controlling existing housing conditions is subject to many limitations. Inadequate funds and severe housing shortages constitute major handicaps. Although it is recognized that people should not be living in housing that does not meet legal standards, welfare departments often can not remove people from such housing because of the additional cost involved in securing satisfactory quarters. Only with adequate funds can welfare departments use their rent-paying power to develop better housing conditions; until then constructive programs must be limited."

The problem thus stated is one to be faced in the years ahead. The public and its welfare and housing officials are jointly challenged to take steps to avoid this type of working at cross-purposes.

### MEDICAL NEEDS

Another problem with which public welfare officials have been concerned is the problem of medical care for persons receiving public aid. In most communities the provision of this care has been a direct responsibility of public welfare officials. Through their contact with the program they have recognized for some time, however, that the problem is not limited to relief clients. Persons of low income have frequently been taken care of less adequately than those whose relief eligibility could be established. It was accordingly with real interest that public welfare officials joined public health officials and other interested groups in the National Health Conference in June, 1939, to discuss the recommendations of the Technical Committee on Medi-

cal Care of the Interdepartmental Committee to Coordinate Health and Welfare Activities.

The recently completed National Health Survey had shown clearly that high sickness rates and lack of medical care were generally associated with poverty. The Technical Committee discovered further that preventive health services for the nation as a whole are inadequate and that hospital and institutional facilities are uneven throughout the country. To cope with these needs, the Technical Committee made recommendations under the following broad headings:

- I. Expansion of general public health services:
  - A. In public health organization and in combating specific diseases.
  - B. In maternal and child health services.
- II. Expansion of Hospital facilities.
- III. Medical care of the medically needy.
- IV. A general program of medical care.
- V. Insurance against loss of wages during sickness.

Public welfare officials generally recognized these needs out of their own agency experience, and have been enthusiastic in their support of the program. The 1939 session of Congress put off consideration of the health program until 1940, but much real interest was aroused in 1939 which will be a powerful factor in the years ahead.

### CONCLUSION

Perhaps the most encouraging trend in public welfare in 1939 was the increasing concern of local officials for a cooperative approach to administration of the programs. Informal administrative agreements have been made; joint services have been formally established; and the assistance of advisory committees of lay citizens has been sought in the planning and operation of programs. Through such developments will come a sound structure of public welfare services, sturdy in its foundations, and built



## XV. SOCIAL PROBLEMS AND CONDITIONS

to serve society as long as it is needed.

Interest in the growth of the merit system will probably be in the foreground in 1940. The amendment to the Social Security Act makes the Social Security Board responsible for the supervision of such systems. Late in 1939 the Board asked the American Public Welfare Association to call a meeting of seven state welfare administrators representative of all parts of the country to discuss their new and common responsibilities. There was unanimous agreement on the desirability and basic necessity for sound and effective state systems of merit selection and man-

agement of personnel in agencies administering the various programs under the Social Security Act. Certain practical difficulties were, however, pointed out. In some states, constitutional and statutory limitations upon state powers and budget inadequacies may constitute handicaps to be overcome. In a spirit of democratic cooperation these difficulties were discussed, and tentative plans made for meeting them. There is every indication that throughout the coming year the same willingness to work together will be evident as the framework is strengthened for a nationwide merit system for public welfare personnel.

### CRIME CONTROL AND PENAL INSTITUTIONS

By JAMES V. BENNETT

DIRECTOR, BUREAU OF PRISONS, DEPARTMENT OF JUSTICE

#### CONTROL OF CRIME

The problem of crime control is one of the most serious concerns of various governmental units, local, state, and Federal. Ordinarily, crime control is thought of in terms of the processes of detection, pursuit, apprehension, prosecution, judicial administration, probation, parole and institutional treatment. This terminology, however, refers to the processes of governmental administration and organization. Every state in the country is burdened with a complexity of local units, each engaged in some phase of crime control and many of them operating independently. In addition each field of administration has its own special objectives and organizational peculiarities. A number of these units, like the sheriff and the local jail, have resisted all efforts at modernization of function. Other units in this field, such as state police or public safety departments or state control of the misdemeanant and youthful offender, are ready to change to meet new conditions.

Coordination of these governmental agencies engaged in crime control has proven extremely difficult. There is

no state which has made a serious concerted effort to integrate the numerous crime control agencies into a single, centrally controlled, adequately planned, financed and equipped organization. However, the movement toward integration on a state level is gathering strength and recognition.

Aside from the aspect of governmental organization in crime control, there is the important problem of the factors and conditions which make for crime and the problem of the treatment of the criminal. These problems are perhaps more fundamental and more inclusive than the proper inter-relationship of the functioning of a few governmental units. An understanding of the factors and conditions which produce the criminal and which are involved in the treatment of the offender, must affect our social and economic organization. Whether crime control is discussed in terms of governmental organization or in terms of causation and treatment, the ultimate objectives are the same prevention of future crime, reduction of the amount in present crime, and protection of the public.

## CRIME CONTROL AND PENAL INSTITUTIONS

### SURVEY OF RELEASE PROCEDURES

The two most outstanding events in the field of crime control from a national point of view have been the publication of the Attorney General's Survey of Release Procedures and the National Parole Conference which convened at the call of President Roosevelt. Preliminary plans for the Attorney General's Survey were started in 1935. Although the funds were allotted by the Works Progress Administration, the direction of the entire project was in the hands of Attorney General Homer Cummings. The principal purpose of the survey was to secure a broad view of the whole field of release procedures including probation, parole, pardon, and prison administration.

At the beginning of the study a wide range of specific objectives were formulated. The lack of funds, however, prevented the completion of the study as originally contemplated, but in December, 1938 four volumes were published. The first volume is a "Digest of Federal and State Laws on Release Procedures." Volume two concerns itself with "Probation" and presents a comprehensive view of present conditions of probation law and administration throughout the country. Furthermore, it is the first nation-wide study ever made of the whole subject of probation as a method of crime control. The subject of volume three is "Pardon" and is dealt with as a needed function in the administration of criminal justice. The fourth volume is devoted to a detailed study of parole on a nation-wide scale. The report includes a critical examination of the administrative practices in the parole field in the several states; an analytical review and comparison of the constitutional provisions, statutes, and decisions governing parole; and an organization of statistical material which reveals in some degree the actual operation of parole laws and practices. A fifth volume, not yet published, will deal with a survey of prison administration and programs for treatment and rehabilitation in prisons and reformatories throughout the country.

### THE NATIONAL PAROLE CONFERENCE

The other outstanding event of National importance was the National Parole Conference held in Washington, D.C. in April, 1939. It was called at the suggestion of President Roosevelt by Attorney General Frank Murphy. The meeting was largely attended and was addressed by a number of speakers including Attorney General Murphy; James V. Bennett, director of the Bureau of Prisons; Herbert H. Lehman, governor of New York; Robert Hutchins, president of the University of Chicago; Joseph Canavan, chairman of the Board of Parole of New York; Sam A. Lewisohn, member of the New York State Commission on Prisons; and members of the judiciary; Federal, state and municipal law enforcement officials, the church, and the various penal and correctional systems in the United States.

The President of the United States gave a forceful radio address over a nation-wide network, which emphasized the value of a well organized and properly administered parole system in adequately protecting society. The President stated that parole is the best known and most favorable method of releasing men from prison yet devised and deserved the support of the public.

The delegates to the Conference adopted a Declaration of the Principles of Parole which, because of their importance, bear repetition and wide dissemination. It is worthwhile to reprint them here:

"We, the delegates to the National Parole Conference, assembled at the request of the President of the United States . . . recognizing that practically all imprisoned offenders are by operation of the law ultimately released, and that parole, when properly administered and carefully distinguished from clemency, protects the public by maintaining control over offenders after they leave prison, do declare and affirm that for parole to achieve its purpose—

1. The paroling authority should be impartial, non-political, pro-

## XV. SOCIAL PROBLEMS AND CONDITIONS

- professionally competent, and able to give the time necessary for full consideration of each case;
2. The sentencing and parole laws should endow the paroling authority with broad discretion in determining the time and conditions of release;
  3. The paroling authority should have complete and reliable information concerning the prisoner, his background, and the situation which will confront him on his release;
  4. The parole program of treatment and training should be an integral part of a system of criminal justice;
  5. The period of imprisonment should be used to prepare the individual vocationally, physically, mentally, and spiritually for return to society;
  6. The community through its social agencies, public and private, and in cooperation with the parole service should accept the responsibility for improving home and neighborhood conditions in preparation for the prisoner's release;
  7. The paroled offender should be carefully supervised and promptly re-imprisoned or otherwise disciplined if he does not demonstrate capacity and willingness to fulfill the obligations of a law-abiding citizen;
  8. The supervision of the paroled offender should be exercised by qualified persons trained and experienced in the task of guiding social readjustment;
  9. The state should provide adequate financial support for a parole system, including sufficient personnel selected and retained in office upon the basis of merit;
  10. The public should recognize the necessity of giving the paroled offender a fair opportunity to earn an honest living and maintain self-respect to the end that he may be truly rehabilitated and the public adequately protected."

### REGIONAL SURVEY OF PRISONS AND REFORMATORIES

During 1939, the Osborne Association completed a survey of the prisons and reformatories in the west north central states covering seven states and 17 institutions. This survey was published as the first volume of the fifth edition of the *Handbook of American Prisons and Reformatories*. A few quotations from the report will indicate the present situation in this particular area:

"A review of the reports included in this volume indicates that the management of prisons and reformatories for men in the West North Central states continue to reflect a philosophy of punishment and that even where some of the techniques of rehabilitation have been adopted they have been superficially imposed upon an antiquated system of mass treatment. This is as true of the men's reformatories as it is of the prisons, for the former do not differ significantly except in the average age of inmates. On the other hand, the generalizations which apply to the men's institutions do not apply to the women's institutions, which have made far greater progress, even in the most reactionary states.

"Prison and reformatory plants are, with a few exceptions, of the traditional bastille type and the new construction and remodeling have tended to follow old patterns rather than to profit by the economics which can be realized through the successful operation of medium and minimum security units. . . .

"The seven states included in this survey have centralized control of public institutions and all of them follow the same general plan of organization. With minor exceptions . . . control is vested in a board of three salaried members appointed by the Governor to serve staggered terms. . . . Politics continues to play the leading role in the management in five of the seven states and in two it is held in check only by happy tradition

## CRIME CONTROL AND PENAL INSTITUTIONS

and not by administrative safeguards. Other major defects of central control are overemphasis on the fiscal aspect of management accompanied by neglect of the welfare functions and the stifling of initiative on the part of local wardens and superintendents. These defects seem to arise through failure to employ central executive officers trained in the administration of welfare and rehabilitation services as well as business methods and failures to distinguish between the policy making and administrative functions of the central organization.

"... the personnel situation in the seventeen institutions is generally bad. Appointments are most frequently made on a patronage basis, tenure is insecure, and there is a wholesale turnover when general elections change the political complexion of the state. These factors, together with low salaries, long working hours, poor living conditions, and the lack of special training, conspire to keep personnel standards to a level which would make a truly rehabilitative program impossible. . . ."

This is indeed a dark picture but fortunately does not apply to all sections of the United States. Similar surveys made in previous years by the Osborne Association of eastern, midwestern, and many southern prison systems indicate a great deal of progress in several directions. One of the most hopeful features of penology today is the attitude of the prison wardens as a group. As a class, they can not be censured for conditions which are due to short-sighted legislative policies. The majority of the wardens and superintendents are men of ability and receptive to modern ideas of prison administration.

### EXPANSION OF THE FEDERAL PRISON SYSTEM

During 1939 approximately \$14,000,000 was made available to the Federal Bureau of Prisons through the Public Works Administration for the

construction and repair of Federal penal and correctional institutions. This money has been allocated and distributed among 19 projects which include the construction of a new, medium security penitentiary located in Indiana; new institutions for short-term Federal prisoners which are to be located in Colorado, Connecticut, Kentucky and Texas; funds for additional hospital, receiving, and housing facilities at a number of the existing institutions. The Federal prison camp system is also being expanded and its facilities improved.

The Federal prison population is today the highest it has ever reached. It reached a new peak in April, 1938 when the aggregate population was 17,187. This represented an increase of 5,773 over a four-year period. Because of the lag in Federal prison construction in the last several years, overcrowding in existing institutions resulted. The normal capacity of the Federal penal and correctional institutions is over 13,000 into which more than 17,000 men have been crowded.

### PERSONNEL TRAINING AND IMPROVEMENT

One of the most significant points in the history of American penology is the increasing interest on the part of prison administrators in personnel improvement. The personnel training program for the field service of the Federal prison system and the Central Guard School for newly selected officers in the New York State prison system are the two outstanding training programs. However, several state systems and individual institutions have recently instituted training courses, among them Wisconsin, Michigan, Indiana, and Pennsylvania.

At the present time, however, only the Federal prison system has in operation a complete personnel plan. This plan was put into operation in 1936 and is based on five essential elements:

1. It establishes a pay scale for all prison personnel which pro-



## XV. SOCIAL PROBLEMS AND CONDITIONS

vides a minimum base pay with regular increases by fixed increments for continued satisfactory work. The base pay for a Junior Custodial officer is \$1,860 a year.

2. It calls for the recruiting of officers, through Civil Service, on the basis of carefully standardized physical, mental, and educational qualifications supplemented by character investigations.
3. It establishes ranks within the custodial service, so that men may look forward to promotion as well as pay increases. Beginning as a probationary officer, a recruit may look forward to promotion through the ranks of Junior Custodial Officer, Senior Custodial Officer, Lieutenant and Captain. The service as a whole has an authorized strength in each rank, and vacancies are filled by examination which are open to those officers of the next lowest rank who have satisfactory service ratings.
4. It provides an in-service training program for all ranks which includes physical education, defensive techniques, the care and use of weapons, supervised duty, and the completion of a study course compiled by the Bureau staff and covering all phases of penal administration.
5. It embraces a retirement system and pension program, one feature of which is an annual physical examination with retirement for those found medically unfit for duty as well as

automatic retirement based on age and years of service.

### AMERICAN PRISON ASSOCIATION'S CONFERENCE

The American Prison Association has a history of 70 years of leadership in the field of American penology. At the 69th Annual Congress held in 1939 in New York City a number of resolutions were adopted which reflect the most significant problems faced during the year. A number of states have entered upon construction programs involving the expenditures of huge sums of money for the construction of old-fashioned fortress type of institutions. Other states have, in the name of economy, reduced or eliminated appropriations for such fundamental services as educational, psychiatric, and social work. Such services, combined with medical, vocational education and religious work, will, when properly and effectively administered, prove more economical and rehabilitative than the construction of huge institutions and the housing of large numbers of prisoners in expensive steel cells.

The Association also expressed its disapproval of the many recent departures in several states from the principle of building prison administration into a professional and career service and of appointing officials to penal departments, institutions and allied agencies who are especially qualified by training experience and qualifications. Political changes in a number of states have resulted in retarding the progress which might have developed into outstanding prison systems.

## HOUSING

BY STEWART McDONALD

ADMINISTRATOR, FEDERAL HOUSING ADMINISTRATION

### FEDERAL HOUSING ADMINISTRATION

During 1939 the Federal Housing Administration further consolidated its position as the leading influence in the home financing structure of the

country. That the FHA program has been largely responsible for the steady increase in the construction of new homes and the improved condition of the home mortgage market is recognized throughout the country.

## HOUSING

Despite the materialization of the expected decrease in the number and value of mortgages examined for insurance involving existing properties, FHA business for the year approximated \$1,400,000,000. This exceeded the total reached in any year since its inception, surpassing the previous year's record total of \$1,250,000,000 by approximately 12 per cent.

Including new business handled during the year, the FHA transacted business amounting to something more than \$4,670,000,000. This included approximately \$3,560,000,000 in individual home mortgages selected for appraisal; \$970,000,000 in property improvement loans insured; and \$140,000,000 in mortgages on rental housing projects accepted for insurance.

Amendments to the National Housing Act approved by Congress and the President during 1939 placed every phase of FHA operations on a paying basis. During the next fiscal year, income from appraisal fees, insurance premiums, and other sources will total more than \$22,000,000, a sum large enough to permit the payment of all operating expenses and still enable the FHA to augment its insurance funds by approximately \$8,000,000.

On Aug. 1, the interest rate on home mortgages insured by the FHA was limited by regulation to 4½ per cent and the rate on rental housing mortgages was set at a 4 per cent maximum. This new rate, the lowest ever made available on a national basis, has done much to stimulate home construction which might have been adversely affected by unsettled world conditions.

### HOME MORTGAGE INSURANCE

The insurance of individual home mortgages continues to be the principal activity of the Federal Housing Administration. During 1939 the volume of mortgages selected for appraisal reached an estimated total of more than \$1,150,000,000, an increase of approximately 15 per cent over the \$1,010,000,000 of mortgages selected during 1938. Firm commitments to insure mortgages issued

during the year totaled approximately \$750,000,000, representing an increase of approximately 12 per cent over the \$647,949,000 accepted during the previous year.

As has been indicated above, by far the largest proportion of FHA business now involves mortgages for the construction of new houses. For 1939 new home mortgages have accounted for over 70 per cent of the total volume of mortgage business accepted for insurance.

The term new home is defined in the National Housing Act as any property constructed within a year of the date of the insurance of the mortgage. During the early days of the program, a large portion of new home mortgages involved properties completed prior to the submission of the application for mortgage insurance. At present, however, approximately nine out of ten new home mortgages accepted involve properties constructed under FHA inspection.

Construction under FHA inspection is, of course, a legal requirement for properties securing 21- to 25-year 80 to 90 per cent mortgages. In recent years, however, a growing number of homes not subject to the requirement have been constructed from plans approved by the FHA prior to the start of construction and inspected during the building period. This change of procedure, entirely voluntary on the part of builders, reflects the extent to which FHA property and construction requirements have gained public acceptance. Builders find that houses constructed under FHA inspection are more readily salable. Consequently, a growing number of builders submit plans for all houses to the FHA.

During the last few months an average of 500 new homes has been started each working day throughout the country to be constructed under FHA inspection. This is exclusive of small properties built under the provisions of the new Title I loan insurance program described below. Of significance, also, is the fact that the average FHA new home

## XV. SOCIAL PROBLEMS AND CONDITIONS

mortgage has continued its steady decline. In 1939, the average mortgage on new homes insured by the FHA amounted to \$4,530. Five years ago the average mortgage on new homes was more than \$4,800. In view of the fact that the ratio of the average mortgage to the value of the property has increased since the passage of the 1938 amendments, this decline in the average mortgage is of particular interest. It would appear that builders are producing a growing number of lower priced homes suited to the needs of the smaller income families of the country.

Average payments on FHA mortgages used for the construction or purchase of new homes continued to decline, both because of the decline in the value of the average mortgage and because of the longer period now allowed for the amortization of the mortgage. The purchaser of the average new home makes a monthly payment to principal, interest, and mortgage insurance premium of less than \$30 per month. The events of the last few years have brought homes within the reach of the average American family.

### MODERNIZATION LOAN INSURANCE

The insurance of modernization loans was originally introduced as an emergency measure, intended to stimulate the construction industry. The extent of the stimulus given building and related industries as a result is shown by the fact that 2,300,000 home, farm, and other property owners have obtained FHA-insured modernization loans amounting to approximately \$1,000,000,000.

While the emergency which prompted the passage of modernization loan insurance phases of the program has passed, the measure has been continued in effect. Now, however, lending institutions pay an insurance premium for the service. Loans used to modernize or improve existing structures or to construct non-residential structures carry a premium of three quarters of one per cent while loans used for the construction of new residential struc-

tures are insured for a premium of one-half of one per cent.

While lending institutions pay insurance premiums themselves and do not pass on to the customer the charge for insurance, modernization loans retain their popularity. During November, 1939, for example, some 60,000 loans amounting to \$24,500,000 were insured. This compares with insurance during the same month a year ago when 55,939 loans amounting to \$23,044,000 were insured.

Under the provisions of Title I, the FHA now insures loans of not more than \$2,500 used for the construction of new homes. The new plan, which supplements the Title II insurance program, differs from the older mortgage insurance features in several respects. Under Title I loans are insurable if prospective borrowers can establish an equity of at least 5 per cent of the appraised value of the property, while under the older plan loans may not represent more than 90 per cent of the value of the property. The maturity of loans is limited to 15 years as opposed to the 25-year term permissible under Title II. Property standards and locational requirements have been simplified under the new plan. The new loans are intended specifically for use by farm families, persons building summer cottages, and certain urban families who for one reason or another, such as neighborhood, have been unable to qualify under Title II.

The FHA insurance system is both self-sustaining and mutual. Consequently, FHA requirements as to location, construction, design, etc., are relatively severe. In some instances, this stringency has worked a hardship on families which should be given the benefits of the more liberal home financing terms which FHA insurance of loans makes possible. The new plan is intended to extend to these families the assistance of the FHA system, but there is no mutuality about Title I insurance.

Houses which will be constructed under the new Title I program will be desirable residential structures. Small houses which already have been constructed under the terms of the

## HOUSING

program are attractive, well built, and apparently readily salable to the group of families receiving incomes of between \$900 and \$1,500.

Many families in this particular income group already own lots in existing subdivisions of small houses, which unfortunately do not meet basic FHA neighborhood standards. In general, the principal flaws in such neighborhoods are the lack of uniformity in the type, size, and design of houses constructed, the placement of houses on lots, etc. While these flaws are deterrents to FHA mortgage insurance in the neighborhood, they do not necessarily detract from the desirability of the neighborhood for the particular group of families which already has purchased lots, or for other families of similar means and desires. It is believed that the FHA can perform a desirable service by making it possible for these families to obtain suitable home financing terms.

### RENTAL HOUSING MORTGAGE INSURANCE

Amendments to the National Housing Act passed in February, 1938, materially broadened the rental housing mortgage insurance program and the repeal of Section 210 of the Act in June, 1939, has in no sense limited FHA operations in this field. Section 210 was placed in the National Housing Act because it was believed that it might fill a gap between the insurance of mortgages on individual homes and the insurance of blanket mortgages on large rental apartment projects or large groups of houses for rent or for sale. It was found in practice, however, that Section 207 was more workable and less burdensome financially even in the case of projects involving the construction of relatively small groups of houses for sale or rent. All large-scale housing mortgage insurance now is undertaken under Section 207.

Through Oct. 31, 1939, the FHA had issued commitments to insure mortgages on 341 large-scale housing projects in the amount of \$136,676,000. These projects will provide living accommodations for some 35,600

families. Of these projects, 254 involving mortgages amounting to \$110,000,000 were under construction or completed and in operation at that date. Accommodations for some 28,600 families living in 33 states and the District of Columbia are included in projects under construction or completed. The remaining 87 projects probably will be placed in construction within the near future.

### FINANCIAL CONDITION AND LOSSES

Income from appraisal fees, annual mortgage insurance premiums, Title I loan insurance, and other sources is being received currently at the rate of more than \$1,000,000 a month. It is estimated that, by the beginning of the next fiscal year, July 1, 1940, FHA income will approximate a monthly figure of more than \$1,500,000, enabling the FHA both to pay all current expenses and to add substantially to insurance funds each year.

The Mutual Mortgage Insurance Fund stood at \$26,000,000 on October 31 and the Housing Insurance Fund at \$2,000,000, this being the Fund covering the insurance of rental housing mortgages. On the same date the Administrator had acquired title to 1,062 of the 436,493 properties covered by insured mortgages amounting to over \$1,800,000,000. Of these 508 had been sold, leaving 554 properties on hand. The net charges to the Mutual Mortgage Insurance Fund, as a result of the sale of these 508 properties, was \$279,395.

Under the Modernization Loan Insurance program claims have been paid in the amount of \$23,200,000. Cash collections and credits on repossessed items on Nov. 1 aggregated \$8,200,000, leaving \$15,000,000 in claims uncollected on that date. In view of the fact that insurance of modernization loans has almost reached the \$1,000,000,000 mark, the losses sustained by the FHA are negligible.

### MORTGAGE LIQUIDITY

That the FHA-insured mortgage now has achieved a unique invest-



## XV. SOCIAL PROBLEMS AND CONDITIONS

ment appeal is indicated by numerous facts. At the end of September, 1939, secondary purchases and sales of mortgages, including resales of the same mortgage, amounting to \$612,600,000, had been reported to the FHA. During the first nine months of the year premium-paying mortgages amounting to \$233,000,000 were transferred by lending institutions to other approved agencies.

While all types of institutions have participated in the purchase and sale of insured mortgages, Federal agencies (specifically the Federal National Mortgage Association and the RFC Mortgage Company) insuring companies and national banks have been the largest purchasers, with insurance companies still maintaining their leadership as the largest purchasers of mortgages on a cumulative basis.

At the end of June, the Federal National Mortgage Association had on its books mortgages insured under Section 203 of the National Housing Act in the amount of \$123,432,000. The FNMA also had on its books at that time insured mortgages involving large-scale housing projects amounting to more than \$1,500,000, and had outstanding commitments to purchase or make insured mortgages amounting to \$10,570,000.

The FNMA is providing a secondary market service such as the home mortgage market in this country which has never before been known. The established liquidity of FHA-insured loans is a principal factor contributing to the increased willingness of lending institutions to advance funds at a progressively lower rate of interest and on terms more favorable to the buyer of homes.

### SLUM CLEARANCE AND LOW-RENT PUBLIC HOUSING

BY NATHAN STRAUS

ADMINISTRATOR, UNITED STATES HOUSING AUTHORITY

#### OFFICIAL RECOGNITION OF THE SLUM PROBLEM

In 1939, for the first time in 100 years, the slums of America ceased growing and began to shrink. The progress of slum clearance and low-rent housing is indicated by the fact that, to date, 38 states, the District of Columbia, Puerto Rico, and Hawaii have passed enabling acts authorizing local communities to establish local housing authorities; that the housing acts of 19 states have been tested and upheld in the high courts; that local housing authorities have been established by 284 communities in every part of the country; and that 346 low-rent housing projects are now being planned or built with the aid of U. S. Housing Authority loan contracts amounting to \$581,776,000.

#### UNITED STATES HOUSING AUTHORITY

Originally set up in the Department of the Interior, the USHA was

transferred in 1939 to the new Federal Works Agency as a result of the Reorganization Act. Moreover, there have been established during the past year seven regional offices designed to enable the USHA more efficiently to serve the local authorities of the nation.

The purpose of the United States Housing Authority, as defined by the United States Housing Act, is "to provide financial assistance to the States and political subdivisions thereof for the elimination of unsafe and insanitary housing conditions, for the eradication of slums, for the provision of decent, safe, and sanitary dwellings for families of low income, and for the reduction of unemployment and the stimulation of business activity."

To achieve this purpose, the USHA makes repayable loans and annual grants-in-aid to local housing authorities with programs designed to clear slums and provide decent homes at rents within the financial reach of

## SLUM CLEARANCE AND LOW-RENT PUBLIC HOUSING

low-income families living in sub-standard dwellings.

In keeping with American tradition, the USHA program is democratic, non-partisan, and decentralized. Members of local housing authorities come from all walks of life and from every political faith. The entire responsibility for initiating, planning, developing, constructing, and managing housing projects rests with the local housing authorities. The USHA itself does not build housing projects or tear down any slums.

### PROVISIONS OF U. S. HOUSING ACT

To insure that none but families of low income unable to rent decent homes elsewhere are taken in as tenants in USHA-aided projects, the United States Housing Act limits tenants to families whose average annual net income is not more than five times the rent (including heat, light, water, and cooking fuel), and where there are three or more minor dependents, to six times the rent. The eradication of slums is made certain by another provision of the act stipulating that the USHA make no annual contributions contract with a local authority unless it provides for the elimination or compulsory repair of unsafe or insanitary dwellings equivalent in number to the new homes to be built.

Under the present program, the USHA is authorized to make loans to local authorities totalling \$800,000,000, and annual contributions of \$28,000,000. The loans are restricted by law to not more than 90 per cent of the development cost of a project, the remaining 10 per cent being furnished by the local community. Every USHA loan must be repaid in full, with interest usually between  $2\frac{3}{4}$  and  $3\frac{1}{4}$  per cent. Annual contributions, made by the USHA to local authorities for the one purpose of enabling them to keep rents in the new projects within the financial reach of low-income families, have been limited to a maximum of from  $3\frac{1}{4}$  to  $3\frac{3}{4}$  per cent of the development cost. The act requires local communities to share part of the cost

of low rents by making annual contributions equal to at least 20 per cent of the USHA annual contributions. These local contributions are nearly always made in the form of tax exemption of the housing projects.

### COSTS AND RESULTS

The only cost to the Federal Government of the USHA program is that involved in the annual subsidies paid to local authorities. This net cost, in view of the fact that the USHA borrows at  $1\frac{3}{8}$  per cent and lends at rates between  $2\frac{3}{4}$  and  $3\frac{1}{4}$  per cent, amounts to about \$120 per year for each family rehoused. This compares favorably with the annual cost to the Federal Government of \$1,049 to keep one worker on CCC for one year, \$732 to provide a year's work for one man on WPA, \$464 to pay one veteran's pension for a year, and \$111 to pay agricultural benefits to one farmer for a year. The total annual net cost to the Federal Government of the program now under way will be only about \$18,-760,000.

When the present program is completed, a year's work will have been given 300,000 men; \$225,000,000 will have been paid in wages to labor on project sites and additional millions to off-site workers; \$280,000,000 will have been spent with private industries for materials and equipment; 160,000 new homes will have been built and at least an equal number of slum dwellings eliminated; and 640,000 persons will have been moved from dangerous, insanitary houses to well-built, healthful new homes.

Prior to the fall of 1937, when the United States Housing Act was passed, public housing in America was little more than a wishful dream. Though nearly every major European country had long ago embarked upon ambitious public housing programs and thousands of projects had been built, rehousing millions of low-income families, nothing had been done in the United States. Slums had spread from Canada to the Gulf and from the Atlantic to the Pacific, breeding disease and crime, wrecking

## XV. SOCIAL PROBLEMS AND CONDITIONS

property values, and destroying the lives of thousands of citizens. Zoning laws, building regulations, and other measures directed against the slums by local governments had proved ineffective. Housing projects erected by private philanthropists were but a drop in the bucket. Private builders had abandoned all attempts to build homes to rehouse slum dwellers, having found they could not build to rent to low-income families and still make a profit on their investment.

During the little more than two years of its operations, the USHA has demonstrated that public housing can be produced even more economically than private housing, that slums are being cleared and their occupants are being rehoused at rents they can afford to pay.

The United States Housing Act limits the cost of dwelling facilities on USHA-aided projects to \$4,000 per family dwelling in cities below 500,000 population, and to \$5,000 per dwelling in larger cities. Significantly enough, the average net construction cost on projects already built or under construction have been driven down to \$2,821 per dwelling unit, several hundred dollars less than similar net costs for private construction in the same areas. This has been done although all USHA-aided projects are built to last for at least 60 years and prevailing wages must be paid and established labor standards maintained.

### EQUIPMENT AND INSURANCE SAVINGS

In addition to lowering construction costs, the USHA has brought about reduced housing costs in other directions. By adoption of a wholesale purchase method, the costs of electricity, gas, water, and other utilities have been cut far below the usual retail rates. Local housing authorities have been enabled to obtain fire insurance at reduced premiums, the savings amounting to as much as 62 per cent. Under a new financing plan effected by the USHA, local authorities may issue short term temporary loan notes for sale to the general pub-

lic to finance project construction at a possible saving of as much as two per cent on the total cost of a project. It is expected that this plan may develop into a permanent system for private financing of the public housing program, thus relieving the Federal Treasury of this financial operation and opening up a vast new field for investment of private capital.

### RENTS

Because of these savings effected by the USHA in the cost of public housing, local housing authorities have been enabled to establish rents which are the lowest achieved in recent years for decent housing, public or private. In the North, average shelter rents (utilities excluded) are around \$14 per month for a four-room dwelling, and in the South, about \$10, although in Austin, Tex., average monthly shelter rents as low as \$6.59 per home have been set.

While the USHA program serves only families whose average annual incomes are not more than \$1,150, the low rents already achieved make it possible for local authorities to accept tenants with average annual incomes as low as \$600 in the North and \$300 in the South. Private enterprise, on the other hand, builds almost exclusively for families in the highest income group, those making \$1,750 or more per year. Competition, therefore, between USHA-aided projects and private rental properties is impossible. But even more important, by helping private builders achieve lower costs, public housing helps them tap the almost limitless and untouched housing market composed of those "middle income families" earning from \$1,150 to \$1,750 per year. Thousands of these families, impressed with the new homes being built under the USHA program, are now demanding better homes for themselves. Here is a great challenge and opportunity for private industry.

### EXPANSION OF THE PUBLIC HOUSING PROGRAM

Although slums are being torn down and low-rent housing projects are being built in every section of the

## PERIODICAL PUBLICATIONS

country, public housing in the United States is still in its infancy. Only the framework of an adequate program has been established. Many localities now participating in the program have requested USHA loans for additional projects. Other cities, where local housing authorities have only recently been established, are asking for earmarkings; these requests now total over \$1,000,000,000.

While all presently available funds have already been committed, legislation authorizing an expansion of the program has been passed by the Senate and is pending in the House. Enactment of this legislation, authorizing an additional \$800,000,000 in loans and \$45,000,000 additional in annual contributions to local housing authorities, will make possible the construction of about 230,000 additional new dwellings, the demolition or compulsory repair of an equal number of slum houses, and the rehousing of about 920,000 persons, in addition to the present program. Furthermore, it will enable the USHA to proceed with its rural housing program, for which \$200,000,000 of the additional loan authorization is earmarked in the bill.

The need for slum clearance and low-rent housing in rural areas of the United States is manifested by recent government surveys which show that approximately 4,550,000 farm families, or 65 per cent of the total farm families in the country, are living in substandard homes. It is estimated that funds provided in the bill would take care of the housing needs of about 100,000 of these families. Thirty-seven county housing authorities have been organized to date in 13 states in order to participate in the rural program; of these, four authorities in four states are planning

to start construction by spring and have applied for USHA loans to build a total of 800 farm homes. The average construction cost of USHA-aided farm homes, including living, cooking, and dining space, three bedrooms, storage space, and work porch is expected to be about \$1,700 per dwelling, with rents averaging around \$4.25 per month. Occupancy, financing, and slum clearance requirements will be practically the same as under the urban housing program. The legislation, however, will allow farmers to rent or acquire title to the new homes on a 60-year payment basis.

### THE SOCIAL ASPECT

The clearing of slums and the rehousing of low-income families is not the whole of the USHA program. It is directed also toward the rebuilding of American communities, and the substitution of an orderly, livable, economic development for the chaotic wastefulness that heretofore has characterized the growth of American cities and towns. All urban projects, therefore, are community enterprises, with at least minimum facilities provided for community activities such as lectures, motion pictures, sewing clubs, and children's games, while in each project open space is made available for outdoor recreation of children and adults. Thus in promoting the development of a rich community life in public housing projects, the USHA is also pointing the way to a higher form of community life outside the projects. In this way the public housing program is indirectly making possible a better understanding, not only of social relationships, but of the benefits and responsibilities of American citizenship.

## PERIODICAL PUBLICATIONS

*American Childhood Magazine*  
111 Eighth Ave., New York City.  
*American Journal of Public Health*  
and the *Nation's Health*  
50 West 50th. Street, New York.

*American Journal of Psychiatry*  
2 East 103d. Street, New York.  
*Boy's Life*  
Boy Scouts of America, 2 Park  
Ave., New York.



## XV. SOCIAL PROBLEMS AND CONDITIONS

*Child Health Bulletin*  
50 West 50th. Street, New York City.

*Housing*  
105 East 22nd. Street, New York City.

*Journal of Home Economics*  
101 East 22nd. Street, New York City.

*Journal of Social Hygiene*  
50 West 50th. Street, New York City.

*Social Research*  
66 West 12th. Street, New York City.

*Social Review*  
250 Park Ave., New York City.

*Social Studies*  
1021 Filbert Street, Philadelphia.

*Social Work Today*  
6 East 46th. Street, New York City.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

### JUSTICE AND MAINTENANCE OF ORDER

AMERICAN BAR ASSN., Section on Criminal Law, Endicott Bldg., St. Paul, Minn.

AMERICAN CIVIL LIBERTIES UNION, 31 Union Sq., New York City.

AMERICAN COUNCIL OF LEARNED SOCIETIES, 597 Fifth Ave., New York City.

AMERICAN INSTITUTE OF CRIMINAL LAW AND CRIMINOLOGY, 357 E. Chicago Ave., Chicago, Ill.

AMERICAN LAW INSTITUTE, 3400 Chestnut St., Philadelphia, Pa.

AMERICAN PRISON ASSN. OF N.Y., 135 E. 15th St., New York City.

NATIONAL COMMITTEE ON PRISONS AND PRISON LABOR, 1860 Broadway, New York City.

NATIONAL CRIME COMMISSION, 73 Tremont St., Boston, Mass.

NATIONAL POLICE CONFERENCE, 240 Centre St., New York City.

NATIONAL PROBATION ASSN., INC., 50 W. 50th St., New York City.

NATIONAL SOCIETY OF PENAL INFORMATION, 114 E. 30th St., New York City.

SOCIETY FOR THE PREVENTION OF CRIME, 150 Broadway, New York City.

WOMEN'S PRISON ASSN., 110 Second Ave., New York City.

### SOCIAL ORGANIZATIONS

AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE, 3457 Walnut St., Philadelphia, Pa.

AMERICAN POLITICAL SCIENCE ASSOCIATION, 305 Harris Hall, Northwestern University, Evanston, Ill.

AMERICAN RED CROSS, 17th between D and E Sts., Washington, D.C.

AMERICAN SEAMEN'S FRIEND SOCIETY, 72 Wall St., New York City.

AMERICAN SOCIETY FOR THE PREVENTION OF CRUELTY TO ANIMALS, 50 Madison Ave., New York City.

BOYS' CLUBS OF AMERICA, INC., 381 Fourth Ave., New York City.

BOY SCOUTS OF AMERICA, 2 Park Ave., New York City.

CAMP FIRE CLUB OF AMERICA, 50 Union Square, New York City.

CHILDREN'S AID SOCIETY, 105 E. 22nd St., New York City.

FEDERAL COUNCIL OF THE CHURCHES OF CHRIST IN AMERICA—Commission on the Church and Social Service, 105 E. 22nd St., New York City.

GIRLS' FRIENDLY SOCIETY OF THE U.S.A., 386 Fourth Ave., New York City.

GIRLS' SERVICE LEAGUE OF AMERICA, 138 E. 19th St., New York City.

HUMANE SOCIETY OF NEW YORK, 313 E. 58th St., New York City.

NATIONAL CATHOLIC WELFARE CONFERENCE, 1312 Massachusetts Ave., N.W., Washington, D.C.

NATIONAL SOCIAL WORK COUNCIL, 50 W. 50th St., New York City.

YOUNG MEN'S CHRISTIAN ASSN., International Committee, 215 W. 23rd St., New York City.

YOUNG WOMEN'S CHRISTIAN ASSOCIATION, 600 Lexington Ave., New York City.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

### SOCIAL FRATERNITIES

BENEVOLENT AND PROTECTIVE ORDER OF ELKS OF THE U.S.A., 2750 Lake View Ave., Chicago, Ill.  
INTERNATIONAL ASSN. OF LIONS CLUBS, 332 S. Michigan Ave., Chicago, Ill.  
KIWANIS INTERNATIONAL, 520 N. Michigan Ave., Chicago, Ill.  
KNIGHTS OF COLUMBUS, P.O. Drawer 1670, New Haven, Conn.  
KNIGHTS OF THE KU KLUX KLAN, Inc., Roswell Rd., Atlanta, Ga.  
KNIGHTS OF PYTHIAS, 1054 Security Bldg., Minneapolis, Minn.  
LOYAL ORDER OF MOOSE, Mooseheart, Ill. (Supreme Lodge of the World).  
MODERN WOODMEN OF AMERICA, 1504 Third Ave., Rock Island, Ill.  
ROTARY INTERNATIONAL, 35 E. Wacker Drive, Chicago, Ill.  
SOVEREIGN GRAND LODGE OF THE INDEPENDENT ORDER OF ODD FELLOWS, 16 W. Chase St., Baltimore, Md.  
SUPREME COUNCIL OF THE ROYAL ARCANUM, 407 Shawmut Ave., Boston, Mass.  
SUPREME COUNCIL, 33° ANCIENT & ACCEPTED SCOTTISH RITE.—Northern Jurisdiction, 117 Statler Bldg., Boston, Mass.—Southern Jurisdiction, 1733 16th St., N.W., Washington, D.C.  
WOODMEN OF THE WORLD, Sovereign Camp, 17th and Farman Sts., Omaha, Nebraska.

### (SOCIAL) HOME LIFE

LANDLORDS' Co-OPERATIVE ASSN., 18 E. 41st St., New York City.  
NATIONAL HOUSING ASSN., 105 E. 22nd St., New York City.  
NATIONAL PLANT, FLOWER & FRUIT GUILD, 1192 Sixth Ave., New York City.  
NEW YORK ASSN. FOR IMPROVING THE CONDITION OF THE POOR, 105 E. 22nd St., New York City.

### (SOCIAL) CHILDREN

BIG BROTHER AND BIG SISTER FEDERATION, Inc., 425 Fourth Ave., New York City.  
BIG BROTHER MOVEMENT, Inc., 315 Fourth Ave., New York City.  
CAMP FIRE GIRLS, Inc., 41 Union Sq., New York City.  
CHILD CONSERVATION LEAGUE OF

AMERICA, 318 W. Washington St., Chicago, Ill.

CHILD WELFARE LEAGUE OF AMERICA, 130 E. 22nd St., New York City.

CHILDREN'S AID SOCIETY, 105 E. 22nd St., New York City.

COMMITTEE ON WORLD FRIENDSHIP AMONG CHILDREN, 297 Fourth Ave., New York City.

HEBREW SHELTERING AND IMMIGRANT AID SOCIETY, 425 Lafayette St., New York City.

NATIONAL CHILD LABOR COMMITTEE, 419 Fourth Ave., New York City.

NATIONAL CHILD WELFARE ASSN., 70 Fifth Ave., New York City.

### (SOCIAL) HEALTH

AMERICAN ASSN. OF SOCIAL WORKERS, 130 E. 22nd St., New York City.

AMERICAN BIRTH CONTROL LEAGUE, 501 Madison Ave., New York City.

AMERICAN CHILD HEALTH ASSN., 50 West 50th St., New York City.

AMERICAN FOUNDATION FOR THE BLIND, Inc., 15 West 16th St., New York City.

AMERICAN HUMANE ASSN., 50 Madison Ave., New York City.

AMERICAN MISSION TO LEPERS, 156 Fifth Ave., New York City.

AMERICAN SOCIAL HYGIENE ASSN., Inc., 50 W. 50th St., New York City.

ANTI-PROFANITY LEAGUE, Ware, Mass.

BETTER FILMS, NATIONAL COUNCIL, 70 Fifth Ave., New York City.

CHARITY ORGANIZATION SOCIETY OF THE CITY OF NEW YORK, 105 E. 22nd St., New York City.

CHICAGO CRIME COMMISSION, 300 W. Adams St., Chicago, Ill.

EUGENICS RESEARCH ASSN., Cold Spring Harbor, L.I., N.Y.

NATIONAL COMMITTEE FOR MENTAL HYGIENE, 50 West 50th St., New York City.

NATIONAL HEALTH COUNCIL, 50 West 50th St., New York City.

NATIONAL HOUSING ASSN., 105 E. 22nd St., New York City.

NATIONAL RECREATION ASSN., 315 Fourth Ave., New York City.

NATIONAL SAVE-A-LIFE LEAGUE, Inc., 299 Madison Ave., New York City.

NEW YORK SOCIETY FOR THE SUPPRESSION OF VICE, 215 W. 22nd St., New York City.

## XV. SOCIAL PROBLEMS AND CONDITIONS

NON-SMOKERS' PROTECTIVE LEAGUE OF AMERICA, 344 W. 72nd St., New York City.

TRAVELERS' AID SOCIETY OF N.Y., 144 E. 44th St., New York City.

### (SOCIAL) TEMPERANCE

ANTI-SALOON LEAGUE OF NEW YORK, 150 Fifth Ave., New York City.

NATIONAL TEMPERANCE SOCIETY, 287 Fourth Ave., New York City.

WORLD NARCOTIC DEFENSE ASSN., 578 Madison Ave., New York City.

### FOUNDATIONS

CARNEGIE ENDOWMENT FOR INTERNATIONAL PEACE, 405 West 117th St., New York City.

CARNEGIE FOUNDATION, 522 Fifth Ave., New York City.

CARNEGIE HERO FUND COMMISSION, 2307 Oliver Bldg., Pittsburgh, Pa.

CARNEGIE INSTITUTION OF WASHINGTON, 16th and P Sts., N.W., Washington, D.C.

GENERAL EDUCATION BOARD, 49 W. 49th St., New York City.

GUGGENHEIM FOUNDATION, 551 Fifth Ave., New York City.

HALL OF FAME FOR GREAT AMERICANS, New York University, University Heights, New York City.

MORO EDUCATIONAL FOUNDATION, 475 Fifth Ave., New York City.

ROCKEFELLER FOUNDATION, 49 W. 49th St., New York City.

ROCKEFELLER INSTITUTE, York Ave. and 66th St., New York City.

ROOSEVELT MEMORIAL ASSN., 28 E. 20th St., New York City.

RUSSELL SAGE FOUNDATION, 130 E. 22nd St., New York City.

WOODROW WILSON FOUNDATION, 8 W. 40th St., New York City.

### WOMEN'S WORK AND PROGRESS

AMERICAN ASSN. OF UNIVERSITY WOMEN, 1634 I St., N.W., Washington, D.C.

AMERICAN NURSES' ASSN., 50 W. 50th St., New York City.

AMERICAN WOMEN'S ASSN., INC., 353 W. 57th St., New York City.

GENERAL FEDERATION OF WOMEN'S CLUBS, 1734 N St., N.W., Washington, D.C.

GIRLS SERVICE LEAGUE OF AMERICA, 138 East 19th St., New York City.

NATIONAL AMERICAN WOMAN SUFFRAGE ASSN., Grand Central Terminal, New York City.

NATIONAL ASSOCIATION OF WOMEN PAINTERS AND SCULPTORS, 42 W. 57th St., New York City.

NATIONAL COUNCIL OF WOMEN, U.S.A., 4 Park Ave., New York City.

NATIONAL FEDERATION OF BUSINESS AND PROFESSIONAL WOMEN'S CLUBS, 1819 Broadway, New York City.

NATIONAL LEAGUE OF WOMEN VOTERS, 726 Jackson Place, N.W., Washington, D.C.

NATIONAL WOMAN'S CHRISTIAN TEMPERANCE UNION, 1730 Chicago Ave., Evanston, Ill.

PROFESSIONAL WOMAN'S LEAGUE, Broadway and 73rd St., New York City.

QUOTA CLUB INTERNATIONAL, INC., 1204 18th St., N.W., Washington, D.C.

WOMEN'S EDUCATIONAL AND INDUSTRIAL UNION, 264 Boylston St., Boston, Mass.

WOMEN'S ROOSEVELT MEMORIAL ASSN., Roosevelt House, 28 E. 20th St., New York City.

WOMEN'S TRADE UNION LEAGUE, 247 Lexington Ave., New York City.

## DIVISION XVI

### LABOR AND LABOR LEGISLATION

#### LABOR CONDITIONS

BY WITT BOWDEN

BUREAU OF LABOR STATISTICS, DEPARTMENT OF LABOR

##### GENERAL

Divided counsels persisted in the labor movement in 1939 but common ground emerged on many vital issues such as opposition to laws restricting the rights of unions. There were few outstanding gains in the field of collective bargaining, the year being characterized by the retention and strengthening of earlier union agreements in new fields such as the steel and automobile industries. Loss of working time from industrial disputes was less than frequently occurs in periods of rising employment and production. The main losses were during the bituminous-coal stoppage and the Chrysler strike. Proposals to amend the National Labor Relations Act were extensively discussed and a Congressional committee was authorized to investigate the National Labor Relations Board and make recommendations on possible changes in the act or in the Board.

Unofficial estimates indicated that unemployment in September was about 10 per cent less than in the same month in 1938. The rise in number of workers employed did not keep pace with the upturn in production partly because of an increase in average hours worked. Emergency employment, although curtailed sharply, remained a vital part of the national economy. The main agencies concerned with emergency projects and public works were placed in the newly created Federal Works Agency. The

employment service, unemployment compensation, old-age insurance, and other features of the social security program were consolidated in the newly created Federal Security Agency. Public interest in wages and hours centered about problems of administering the Fair Labor Standards Act, the Public Contracts Act, and the provisions of the new law affecting W.P.A. workers. Average wage rates underwent slight change, weekly earnings increased somewhat toward the end of the year, and prices and cost of living rose rapidly after the outbreak of war in Europe. The war caused a sharp refocusing of attention on such problems as preventing a curtailment of Labor's rights or impairment of social legislation on the ground of emergency considerations.

##### LABOR ORGANIZATIONS

Chief interest in labor organizations continued to be centered on the division in the ranks of labor. The 59th annual convention of the American Federation of Labor was held in Cincinnati Oct. 3-13. In response to a letter from President Roosevelt, urging resumption of negotiations for peace in the labor movement, the convention expressed willingness to resume conferences with the Congress of Industrial Organizations. The C.I.O. held its second annual convention in San Francisco Oct. 10-13. This convention, in response to a similar



## XVI. LABOR AND LABOR LEGISLATION

letter from the President, adopted a resolution to continue its negotiations committee with discretion for further negotiations. The sixth annual conference on labor legislation, meeting in Washington Nov. 13-15 adopted a resolution instructing the conference and the delegates to utilize every effort to promote reconciliation and labor unity.

The A. F. of L. reported at its convention an increase of membership from 3,623,087 in August 1938 to 4,006,354 in August 1939. The Teamsters' Union reported an increase of 40,800 in paid-up membership, and six other unions each reported an increase of more than 10,000 members. Statements by officers at the C.I.O. convention indicated a total membership of about 4,000,000, but the exact membership was not reported on the advice of counsel on the ground that the C.I.O. and some of its affiliated unions were involved as defendants in court proceedings. The railroad brotherhoods, the International Ladies' Garment Workers Union, and other unaffiliated groups had no important changes in membership. The slogan of the C.I.O. continued to be "Organize the unorganized," and the report of the President of the C.I.O. emphasized the progress made in the extension of the union shop in coal mining, the expansion of organizing activities by the Amalgamated Clothing workers, the growth of collective bargaining in the steel industry, and success in the extension of membership by several other unions. In general, however, the work of labor organizations in respect to membership in 1939 was marked not by growth but by the maintenance and consolidation of earlier gains.

Although the year offered little promise of a restoration of formal labor unity, there was evidence of common ground in regard to many important labor problems. There was agreement, for example, on the gravity of the unemployment problem and on the need for a thorough study of technological changes, inadequate working-class income, excessive hours, and other causes of unemployment. There was agreement

also on American nonparticipation in the war in Europe; on the rights of labor to adequate representation on all official boards and agencies set up to deal with the war situation or with mobilization for national defense; on avoiding a reduction in real wages from rising living costs, profiteering, or other causes; on preventing preoccupation with foreign affairs from diverting attention and efforts from solution of the problems of unemployment, public health, and internal economic security; and on the need for exceptional vigilance in preventing a curtailment of Labor's rights or an impairment of social legislation on the ground of emergency considerations.

The year was marked by the continued development of research departments and special activities of labor organizations. Many of the larger labor unions maintained special departments for carrying on labor research and making use of already available statistical information. The Social Security Act reduced to some extent the needs of union members for their own insurance and pension arrangements but many of the organizations continued their activities in these fields and extended their interest in such activities as education and public health. Members of unions either in their organized capacity or as individuals shared largely in the recent growth of cooperative activities, particularly consumers' cooperatives, and in efforts for the protection of consumers. Labor organizations continued to participate in the activities of the International Labor Organization, with delegates to the general meetings at Geneva and to the Pan American conference held in Havana in December. The A. F. of L. continued its connection with the International Federation of Trade Unions. The disturbed state of international relations made unusually difficult any significant progress in the promotion of international labor relations and labor standards, but prevailing conditions gave significance even to the maintenance of the machinery for international cooperation.

## LABOR CONDITIONS

### LEGAL CHANGES AFFECTING LABOR

**Unfair Labor Practices.**—The year was marked by measures in some of the states restricting the rights of workers to organize and to bargain collectively. In Pennsylvania and Wisconsin the labor relations acts previously adopted were amended. The amendment to the Pennsylvania act enabled employers to claim complete defense against charges of unfair labor practices by showing that the complainant had also committed unfair labor practices. There was also a redefinition of unfair labor practices by employees. In Wisconsin the State Labor Relations Board was replaced by a new board, and the new law, like that of Pennsylvania, defined unfair labor practices by employees. These new definitions of unfair labor practices were viewed by workers as objectionable largely because of the leeway provided for adverse interpretations and decisions in the courts. It was held, for instance, that the definition of coercion of fellow employees in the matter of union membership might be so interpreted as to prevent the use of peaceful and generally accepted methods of inducing workers to join unions.

**Picketing.**—Late in 1938 an anti-picketing law was passed in Oregon by a general referendum. The law limited picketing to specified labor disputes, penalized labor unions for hindering or molesting persons desiring to work for an employer, prohibited any person or organization from obstructing economic activities, and subjected unions to rigorous supervision and regulations. In 1939 Michigan and Minnesota also enacted restrictive legislation.

**Unreasonable Restraints.**—Toward the end of 1939 the Department of Justice in its general program of enforcement of anti-trust laws undertook action against certain labor unions charged with "unreasonable restraints." These restraints were defined as measures to prevent the use of cheaper materials, improved equipment, or more efficient methods; to require the hiring of useless or unnecessary labor; to make use of

graft and extortion; to maintain prices fixed by illegal methods; and to destroy existing and legitimate bargaining arrangements. A specific instance of Federal action was the indictment returned by a grand jury in Detroit on Dec. 5 charging a conspiracy to monopolize the tile trade of the Detroit area. This indictment included two local trade unions and some manufacturers, jobbers' and contractors' associations, and a joint arbitration board representing the unions and two of the contractors' associations.

**Labor Legislation.**—The year was marked, however, by definite gains by labor in the field of legislation and especially of judicial decisions. The legislative gains included the enactment of an anti-injunction law of the Norris-La Guardia type in Connecticut; the creation of unified labor departments with adequate powers in Alabama and Hawaii; the enactment of a workmen's compensation law in Arkansas (its operation, however, being suspended pending a referendum vote); and a large number of minor enactments in many parts of the country relating to accidents and occupational diseases, minimum wages, and labor standards in several fields. Progress was made in plans for the advancement of public health by Federal and state cooperation. The decisions of courts tended in general to uphold state housing legislation and various other measures favorably affecting the interests of labor. Some of the decisions in the National Labor Relations Board cases were favorable to standard labor unions as against "company" unions.

There was continued interest in methods of interstate cooperation as applied to labor legislation and administration. The sixth national conference in labor legislation, meeting in Washington on Nov. 13-15, included governors' representatives from 35 states and representatives from Alaska, Puerto Rico, and the District of Columbia, and in addition many invited guests. Committees made reports and recommendations on wage and hour legislation, on Federal-State cooperation, on child labor, on the

## XVI. LABOR AND LABOR LEGISLATION

training and retraining of skilled labor, on the responsibility of organized labor and labor-law administrators for maintaining and improving labor standards, and on prevention and compensation in the field of industrial accidents and diseases. Several other fields of interest were explored, and recommendations were made for further study and action. The conference recommended in particular the consolidation of all phases of labor-law administration (workmen's compensation, safety and health protection, minimum wages, hours, child labor, employment service, unemployment compensation, and industrial disputes) under a single department of labor in the Federal Government and in each of the states.

**Court Decisions.**—More directly related to labor organizations and their legal status were the decisions of the Supreme Court on anti-leaflet ordinances and ordinances restricting right of assembly. Most of these ordinances had not been applied exclusively to labor union activities but many of them were enacted primarily to prevent or discourage what local authorities viewed as labor disturbances. An ordinance of Griffin, Ga., prohibiting the distribution of written literature without the permission of the city manager, was declared unconstitutional by the U.S. Supreme Court on March 28, 1938. This decision was not conclusive in its effects on the decisions of the lower courts, and on Nov. 22 the Supreme Court ruled on the anti-handbill ordinances of four cities, namely, Los Angeles, Calif., Milwaukee, Wis., Worcester, Mass., and Irvington, N.J. The ordinance of the last-named city involved also the question of house-to-house canvassing. The decision of the Court was to the effect that the ordinances violated the constitutional guarantees of free speech and free press. In another important case, commonly known as the Hague case, the Supreme Court declared invalid the ordinances of Jersey City, N.J., restricting public meetings and the distribution of literature. These ordinances of Jersey City were contested by the Committee for Indus-

trial Organization as infringing the rights of labor unions affiliated with the C.I.O., and the decision of the Court, although general in its significance, was an outstanding vindication of the rights of labor organizations.

### INDUSTRIAL DISPUTES

**Adjustments.**—An upturn in business is usually accompanied by a sharp rise in strikes and industrial disputes. In the year ended September 1939, strikes or stoppages of work due to industrial disputes totaled 2,441. This number was 80 less than in the previous 12-months' period of sharp recession in business and employment. The number of man-days of idleness resulting from industrial disputes was greater in the year ended in September 1939 than in the previous 12 months but in the later period the one stoppage in bituminous-coal mining accounted for almost half of the man-days lost. The U.S. Conciliation Service, which takes action upon the request of employees, employers, or other interested parties, had some share in the adjustment of more than 100 industrial disputes each month. The number of workers involved ranged widely, the largest number being in May 1939 during the bituminous-coal stoppage.

**Mining.**—This dispute, the outstanding industrial conflict of the year, began at the end of March with the expiration of agreements between operators and the United Mine Workers of America. The shut-down was at first restricted to the Appalachian fields and to the unionized mines in Alabama, but by May 5 the stoppage was virtually complete. The necessary maintenance men, however, were authorized to remain at work, and a few mines continued in operation for producing coal for hospitals and certain local utilities. The union demanded wage increases and a 5-day, 30-hour week. Employers demanded wage reductions, but finally agreed to renew the old contract. To this the union agreed in return for a union-shop clause, or, in lieu of this, the omission from the contract of the penalty of a dollar a day per worker for a strike or lockout in violation



## LABOR CONDITIONS

of the agreement. Federal negotiations, involving the Labor Department's Conciliation Service, the Secretary of Labor, and the President, finally resulted in giving up a single general agreement and in the adoption of agreements on a district basis between May 12 and 18. These agreements recognized the United Mine Workers of America as sole bargaining agency. The outstanding employers' organization that refused an agreement was the Harlan County Coal Operators Association, but in June and July even the members of this Association concluded agreements. The Harlan County agreements, unlike the other contracts, did not provide for a union shop but did omit the penalty clause of former agreements. As a result of these various agreements, the whole of the bituminous industry with the exception of a part of the Illinois field came under the operation of collective agreements with the United Mine Workers of America.

**W.P.A. Wages.**—The reversal by Congress of the policy of paying prevailing wages on W.P.A. projects led in July to numerous but scattered stoppages of work for about three weeks. The W.P.A. ruled that anyone absent from work for more than five days would be dropped from the rolls. The right of organization was affirmed but it was explained that since the terms of work were determined by Congress, representing the nation, in contrast to the terms of work in private employment, any change in the terms must be obtained not by a strike or by ordinary collective bargaining but by regularly constituted methods of bringing about a change in law.

**Chrysler Strike.**—The strike of the employees of the Chrysler Corporation was another outstanding industrial dispute of the year. The contract between the Chrysler Corporation and the United Automobile Workers of America expired on Sept. 30, 1939. Before the expiration of the contract, serious difficulties in its interpretation developed and the union charged excessive "speed-ups" of production, while the company

charged the union with "slow-downs." A strike developed by degrees in the various plants of the corporation and affected also the operation of related plants from which the company obtained materials or parts. An agreement was ratified on Nov. 29. The union agreed to refrain from slow-down, stay-in, or sit-down strikes and obtained in return a single contract with a blanket increase of three cents an hour and the creation of a joint appeals board of two representatives from each side with authorization to call in a fifth person if the members so agree as the final arbiter on grievances such as had given rise to the stoppage.

### THE NATIONAL LABOR RELATIONS ACT

**Criticism.**—The National Labor Relations Act and the board charged with its administration were subjected to serious criticism, which continued after the constitutionality of the act was upheld and which came not only from employers but also from trade unions. At first the main labor criticisms came from organizations affiliated with the American Federation of Labor, which voiced the view that the Board's decisions tended to favor unions affiliated with the Congress of Industrial Organizations. In 1939, however, the policies of the Board displeased some of the C.I.O. unions. The intense rivalry between the two major groups of unions thus gravely complicated the problems of the Board in administering a law which unions generally recognized as designed for their protection. The criticisms of employers were met in part by changes in the rules and regulations of the Board. One of the major changes, effective on July 14, 1939, permitted employers to petition the Board for a vote of workers in cases involving the right of representation when two or more unions claim a majority but when no union petitions the board for action to determine which is to have exclusive bargaining rights under the act.

**Suggested Amendments.**—The controversies relating to the act and



its administration had repercussions in Congress, where various amendments were proposed. These were not adopted, but a committee of the House of Representatives was appointed under the chairmanship of a congressman who had expressed himself in favor of extensive amendments. The committee was charged with the duty of investigating the effects of the law and making recommendations as to possible changes in the act itself or in the personnel of its administration.

**Board Disagreements.**—Differences of opinion had already developed among the members of the Board, but it was pointed out before the Congressional committee by board members that there was agreement to the effect that the law was without need of amendment in any important respect. It was also stated that differences in the Board were not over complaint cases charging violations of the law but were connected with representation cases involving the question of the appropriate bargaining unit when more than one labor organization laid claim to right of representation.

**Collective Bargaining.**—The National Labor Relations Act was designed essentially to protect workers in the right to organize and to use their organizations for dealing with employers. Congress thus sanctioned collective bargaining as the method of adjusting differences between employers and employees and the collective agreement as the embodiment of the results of collective bargaining. The extent to which the purposes of Congress were rendered effective under the law, in spite of the difficulties encountered in its administration, is indicated significantly by the progress of collective bargaining. The fields of employment covered by collective agreements at the time the law became effective remained under these arrangements, and new agreements were adopted in many important industries. These included the steel industry, automobiles, rubber, glass, major branches of electrical equipment, and important segments of the aluminum, cement, canning, petro-

leum, and metal-mining industries. There were some further advances in 1939, although the year was marked mainly by a consolidation of earlier gains and a more general acceptance by employers of the principle of dealing collectively with their employees.

**Strikes.**—From the enactment of the law in July 1935 to the decision upholding its constitutionality in April 1937, the operation of the act was seriously hindered by widely circulated legal opinions denying its constitutionality, by a large number of injunction suits, by an increase of "company" unions, and by industrial espionage such as was revealed by the Senate Civil Liberties Committee. Under these conditions, there was for a time an increase in strikes for maintaining rights of organization and collective bargaining which the law was designed to guarantee. Many such strikes were in progress when the law was declared constitutional. In 1938, the first full year of its operation after its constitutionality was upheld, the number of strikes was cut almost in half and the amount of working time lost through strikes was only about one-third of the time lost in the preceding year. Strikes in 1938 for the maintenance of the rights of organization caused a smaller loss of working time than had been lost from strikes of this description in any year after 1932.

**Fansteel Case.**—In addition to the decision of the Supreme Court upholding the constitutionality of the act, 21 other decisions of the Court up to Jan. 2, 1940 affected the orders and procedures of the National Labor Relations Board. All but four of the 22 cases were decided in favor of the board and two of these were in part favorable. An important case in part adverse to the Board was the Fansteel case decided on Feb. 27, 1939. In this decision the Court by divided vote ruled against an order of the Board that had directed an employer to reinstate employees discharged in connection with a sit-down strike. The Board's order had been based on the contention that the discharges constituted a violation of the National Labor Relations Act. The

## LABOR CONDITIONS

Court agreed that the employer had engaged in unfair labor practices but held that the discharge of strikers was not illegal because the strike itself was illegal in its inception and prosecution.

### THE UNEMPLOYMENT PROBLEM

The year 1939 was marked by a large amount of unemployment despite the improved condition of business. Unofficial estimates of unemployment for September ranged around 9,000,000 and showed a reduction of about 10 per cent from September 1938. There was a further decline in October. These estimates of unemployment are radically different from the official unemployment figures of other countries. The unofficial estimates in the United States are not limited to wage earners as are most of the figures for European countries but are made to include salaried workers and the self-employed and, with estimates of employment, include the total potential labor force. Most of the European estimates of unemployment are in fact restricted to insured wage earners as covered by social legislation or to unemployed wage earners who register at public employment offices. Furthermore, American estimates usually count as employed only those in private industry or in regular government service. About 4,000,000 persons engaged in Federal work-relief projects before the reductions in 1939 were thus counted as unemployed. In some of the countries of Europe, work for the unemployed even before the outbreak of the war depended mainly on the maintenance of enormous military, naval, and air establishments essentially unproductive in nature and on the production and supply of food, clothing, munitions, and the various other commodities and services required by the armed forces. The reduction of unemployment in many countries has been accompanied by a serious lowering of standards of living and impairment of civil rights. These facts are mentioned not to minimize the unemployment problem of the United States but to avoid

misleading comparisons with other countries.

### EMPLOYMENT AND PAY ROLLS

The outbreak of war in Europe in September 1939 had some effect on employment and labor income but the effect can not readily be isolated, for the trend was upward independently of the war. Estimates of total non-agricultural employment, excluding officials, proprietors, and self-employed persons, reveal a sharp upward trend from 28,019,000 in August 1938 to 29,098,000 in December 1938, an increase of four per cent. The usual seasonal decline in January reduced employment materially, but there was a gradual upturn from January to August, when the number was 29,199,000. During the next two months almost 1,000,000 additional workers found jobs, the number in October 1939 being 30,124,000, or 7.5 per cent more than in August 1938. These figures do not include workers engaged on projects of the Civilian Conservation Corps, the Work Projects Administration, and the National Youth Administration.

Figures of wages and salaries roughly comparable (excluding work-relief wages, but including the comparatively insignificant wage payments to hired farm workers) indicate a somewhat greater increase in wages and salaries than in employment. This was a result not so much of changes in rates of pay as in regularity of employment and reduction of part time. Total salaries and wages converted to a weekly basis averaged \$720,000,000 in August 1938 and rose sharply to \$784,000,000 in December 1938. There was a downward movement in January but this was less sharp than the decline in employment. The weekly aggregate of wages and salaries was \$773,000,000 in August 1939, an increase of 7.4 per cent over August 1938, and there was a further rise of 9.1 per cent in the two months from August to October. Wages and salaries fluctuated somewhat more widely than employment, for they are subject to the effects of changes not only

## XVI. LABOR AND LABOR LEGISLATION

in employment but also in hours of work and in rates of pay.

The extent of change both in employment and in pay rolls varied widely from industry to industry. In all manufacturing industries combined, employment was 12.1 per cent greater in October 1939 than in the previous October; in the durable-goods industries, 20.6 per cent greater and in the nondurable-goods industries, 5.9 per cent greater. In the nonmanufacturing industries reporting to the Bureau of Labor Statistics, there was an increase of only 2.6 per cent in employment from October 1938 to October 1939, and in some of these industries as well as in a few of the manufacturing industries, there were slight declines.

From August to October 1939, the main increases in both employment and pay rolls were in the durable-goods industries such as iron and steel and aircraft and in bituminous-coal mining, anthracite mining, metal-liferous mining, and retail trade. Some of these increases were partly seasonal, but in many of the industries the stimulus of war abroad was apparent. The experience of the United States during American neutrality from 1914 to 1917 indicates that the effects of the war will be extremely uneven, some industries in areas adapted to filling war orders expanding rapidly and other industries and areas gaining slightly if at all. In comparing conditions at that time with present conditions it is important, however, to note that the differences may be more significant than the similarities. For example, there was much more unemployment both of men and of plant facilities at the beginning of the present conflict than at the beginning of the World War.

### WORK OF THE U. S. EMPLOYMENT SERVICE

During the year a number of changes occurred in methods of dealing with the problem of unemployment, particularly in the agencies charged with administering public policies. One of these changes was the transfer of the U.S. Employ-

ment Service to the newly created Federal Security Agency. The Employment Service active file of applications for jobs at the end of August 1938 contained 8,121,000 names. A year later the number had fallen to 5,776,000, and in October the number was 5,462,000. Placements in private employment in August 1938 were 190,000; in August 1939, 252,000; and in October 1939, 308,000. The active file of applicants is not a measure of unemployment, although with the universal introduction of unemployment compensation the file becomes increasingly valid as an indication of the trend of unemployment.

### THE PUBLIC WORKS PROGRAM

**Regrouping of Agencies.**—Under the Government Reorganization Act approved April 3, there was a regrouping of agencies concerned with public works. The newly created Federal Works Agency includes the P.W.A., the W.P.A., the U.S. Housing Authority, and the Bureau of Public Roads. Some of the agencies of the newly created Federal Security Agency, especially the National Youth Administration and the Civilian Conservation Corps, also have functions relating to public employment. The Emergency Relief Appropriation Act of 1939 provided for important changes relating to public employment, notably a change in wage policy, described later, and a reduction in the number afforded work. With the exception of veterans, all relief workers who had been continuously employed on W.P.A. projects for 18 months or more were to be dismissed. Such persons could not qualify for reappointment before 30 days.

**W.P.A. Employment.**—In October 1938 the number of workers employed on projects financed with W.P.A. funds was 3,366,000. This number was reduced by April 1939 to 2,749,000 and there was a further reduction by September to 1,801,000. Thus, the number was cut almost in half between October 1938 and September 1939. The employment provided by some of the other agencies showed



## LABOR CONDITIONS

slight increases. Construction projects, including projects financed by regular Federal appropriations, employed 411,000 persons in October 1938, 447,000 in April 1939, and 559,000 in September 1939. Work projects of the National Youth Administration employed 220,000 in October 1938, 227,000 in April 1939, and 225,000 in September 1939. In addition the National Youth Administration extended aid to a large number of students. During the 12 months ended in September 1939, enrollment in the Civilian Conservation Corps showed no significant change. The W.P.A. rolls after the reductions of the summer of 1939 showed some increase. Some of the workers who were dropped under the 18-months' rule, mentioned above, again qualified and were readmitted to the rolls.

The various work projects accounted for the purchase of large quantities of materials and for the employment of additional workers in the making and handling of the materials. A P.W.A. estimate of employment provided by expenditures at the site of P.W.A. construction projects up to March 1, 1939 was 1,715,000,000 man-hours, equal to about 1,000,000 persons for a year at 33 hours per week; and the estimate of employment provided by expenditures in the production of raw materials and in transportation and fabrication was 3,179,000,000 man-hours, equal to 1,850,000 workers for a year. These figures relate only to the P.W.A. The wages paid and the expenditures for materials also added to employment in the form of labor used to supply the goods and services consumed by those who were directly connected with the various projects.

**"Little W.P.A.'s."**—The reduction of the W.P.A. rolls was followed by such serious unemployment problems that "little W.P.A.'s" were established in many localities. Many of these, as a result of local financial difficulties or from other causes, paid wages much below the Federal W.P.A. rates and at the same time in some cases put the unemployed to work at normal, continuing activities, thus tending to displace labor paid at regular

rates. In contrast, the rule of the Federal W.P.A. is the employment of the unemployed only on projects that could not otherwise be carried on or would have to be seriously postponed.

### UNEMPLOYMENT INSURANCE, OLD-AGE INSURANCE, AND OLD-AGE ASSISTANCE

**Federal-State Cooperation.**—The unemployment compensation plan, initiated by the Social Security Act of 1935, provided for the gradual development of unemployment compensation by the states in cooperation with the Federal Government. Plans for unemployment compensation were in operation in 1939 in all of the states but the figures of number of persons covered, number of claimants, and amount of payments are not comparable to the figures of earlier years because of the various modifications and extensions of the system. The total amount of benefit payments made from the beginning of the system through October 1939 was \$765,725,000. In October the payments totaled \$26,690,000, a decline of 40 per cent from August, largely on account of improved employment conditions. The declines were greatest in the large industrial centers. The aggregate payments during the first 10 months of 1939 amounted to about \$370,000,000, and nearly half of this total was paid to workers in California, Michigan, New York, and Pennsylvania.

**Railroad Workers.**—The Railroad Unemployment Insurance Act of 1938, as amended on June 20, 1939, placed unemployment insurance for railroad workers under the administration of the Railroad Retirement Board. This act became effective on July 1, 1939, when railroad workers were exempted from the general unemployment compensation programs. From July 1 to Sept. 29, 346,019 claims were received, 176,815 benefit payments were certified, and benefit payments totaling \$2,609,000 were paid, an average of \$14.76 per certification. A certification is required for the unemployment of each 15-day period.



## XVI. LABOR AND LABOR LEGISLATION

**Changes in Federal System.**—The Social Security Act also provided for a federally administered system of old-age insurance. Important changes were made in this part of the law by amendments signed by the President on Aug. 10, 1939. The Federal old-age insurance plan was amended to provide for monthly payments beginning on Jan. 1, 1940, two years earlier than originally scheduled. The benefits available to persons retiring in the earlier years of the plan were liberalized. Monthly benefits were provided for the aged wives and dependent children of annuitants and to the survivors of insured wage earners. The protection of the system was extended to more than 1,000,000 persons not formerly included. The additional coverage consisted partly of workers in employments not previously included, especially shipping and banking, and partly of workers over 65 permitted by the amendments to qualify for retirement annuities. The plan for financing the system was also modified. The pay-roll tax was retained at the level of 1 per cent for both employees and employers in 1940, 1941, and 1942, in place of the 1.5 per cent tax required for these years by the original law. The change in the method of financing the system involved a modification of the original plan of old-age insurance reserves. The Social Security Administration began receiving claims on October 1 for benefit payments first due for the month of January 1940, and it estimated that about 912,000 persons would receive about \$144,000,000 in old-age and survivor benefits in 1940.

**Federal Grants to States.**—The Social Security Act of 1935 provided also for Federal grants to states for old-age assistance plans approved by the Social Security Board. The number of recipients of old-age assistance in August 1939 under state plans approved by the Social Security Board was 1,874,651 and the average amount was \$19.43. The average amount in the several states ranged from \$32.44 in California to \$5.98 in Arkansas. The number of recipients per thousand population 65 years of age and

over was 236 for the country as a whole, and the numbers ranged from 578 in Oklahoma with an average of \$17.62 to 87 in New Hampshire with an average of \$23.66. The act of 1935 enabled the states to obtain from the Federal Government 50 per cent of the old-age assistance up to \$30 per month, and in 1939 this maximum was raised to \$40, effective Jan. 1, 1940.

**Reorganization.**—The social security program was affected vitally in 1939 by the reorganization plan. The following agencies were grouped together to form the newly organized Federal Security Agency: The Social Security Board, the Employment Service, the Public Health Service, the Office of Education, Civilian Conservation Corps, and the National Youth Administration.

### THE FOOD STAMP PLAN

A new plan was adopted in 1939 for increasing the purchasing power of workers dependent on emergency employment and public assistance and at the same time for aiding farmers in the sale of surpluses and business men in the handling of agricultural products. Between 1933 and 1938 the Federal Surplus Relief Corporation and later the Federal Surplus Commodities Corporation bought about 5,000,000,000 pounds of foods of various kinds and distributed them to needy families through relief agencies. Early in 1939 plans were formulated for the handling of these surpluses through normal distribution channels and for an increase in the amount of certain surplus commodities available to needy families.

The new plan calls for the sale of orange-colored stamps in amounts ranging from \$1.00 to \$1.50 per week for each member of families eligible to participate in the plan and for the granting of blue stamps worth 50 cents for each dollar's worth of orange stamps. Families eligible include W.P.A. workers, mothers receiving pensions, recipients of old-age pensions, and unemployed persons receiving public assistance. The orange stamps can be exchanged for food and household supplies sold in food stores

## LABOR CONDITIONS

but not for tobacco, beer, wine, or liquor, or for foods eaten on the premises. The blue stamps can be exchanged only for foods listed as surplus. The foods so listed vary from time to time, the plan calling for 16 items on Dec. 15, 1939. Grocers who exchange their goods for the stamps redeem them for cash, largely through their banks, the Government paying the banks for both types of stamps, the blue stamps being redeemed from the funds such as had been used directly for the purchase of surplus commodities by the Federal Surplus Commodities Corporation.

The plan was introduced on an experimental basis in Rochester, N.Y., and was gradually extended and modified on the basis of experience. It was announced on Dec. 4 that the program had been extended to 23 cities or county areas. According to plans then announced, from 125 to 150 places would be included by June 30, 1940. An experiment was undertaken in one locality in the extension of the plan to low-income groups not dependent on relief work or public assistance.

### WAGES AND HOURS

**Average Hourly Earnings.**—The comparative stability of hourly earnings in 1939 is illustrated by the fact that the average hourly wage in manufacturing industries as a whole was 63.9 cents in 1938, 62.5 cents in August 1938, and 63.4 cents in August 1939. From November 1938 to October 1939 the highest monthly average (in March and October 1939) was only 1.7 per cent above the lowest monthly average (in August 1939). In some of the separate industries the changes were naturally much greater. The recent comparative stability of wages is apparent not only from the general averages of hourly earnings but also from union rates and from entrance wage rates of common laborers. Reports on union rates, obtained for June of each year, show an advance of 1.2 per cent over 1938 in the average of union hourly rates in the printing and publishing of newspapers and periodicals and an increase of only 0.7 per cent

in book and job printing and publishing and in the building trades. The annual July reports on average entrance rates of male common laborers in 20 industries combined show a reduction of 1.8 per cent in July 1939 below the previous July.

In the nonmanufacturing industries there were no significant declines between August 1938 and August 1939, and in a few of these industries there were appreciable increases. In hotels there was a rise from 30.7 cents to 32.2 cents (excluding perquisites), and in dyeing and cleaning there was a rise from 46.8 cents to 48.3 cents. In some of the manufacturing industries with exceptionally low averages there were significant increases. In the industry with the lowest average, namely, cottonseed oil, cake, and meal, the average rose from 26.8 cents to 31 cents. In the men's furnishings industry there was a rise from 36 cents to 38.7 cents; in shirts and collars, from 36.4 cents to 38.5 cents; in sawmills, from 45.3 cents to 48.1 cents; in canning and preserving, from 42.9 cents to 44.7 cents; and in the brick, tile, and terra cotta industry, from 51.1 cents to 53.9 cents.

These increases in average hourly earnings in some of the industries with exceptionally low averages reflect the effects of the Fair Labor Standards Act in the establishment of a minimum rate of 25 cents per hour effective Oct. 24, 1938. It is not possible, however, to analyze satisfactorily the effects of the law by the use of industry averages. In some of the industries with exceptionally low averages there were no increases in the averages, and in some the averages were actually lower in August 1939 than in August 1938. In the cotton goods industry, the August 1938 figure is 38.3 cents and the August 1939 figure is 38.2 cents. This industry in 1938 employed about 360,000 wage earners, and although it is one of the low-wage industries, most of the workers already received wages above the minimum of 25 cents established by the law. The fact that the reported figure for August 1939 was not higher than the figure for

## XVI. LABOR AND LABOR LEGISLATION

August 1938 in spite of the appreciable increases in wages in the lower wage groups could have been due to minor declines in rates above the minimum or to changes in the proportions of workers receiving different rates, or even to a change in the reporting sample. The total number of workers in both manufacturing and nonmanufacturing industries subject to the Fair Labor Standards Act when it became effective in October 1938 was about 11,000,000, but only about 300,000 of these received wages less than 25 cents per hour. The small increases in wages of these comparatively few workers had only a slight effect on the general averages.

**Weekly Hours.**—Hours of work were more widely affected by the Fair Labor Standards Act than were hourly earnings. The law provided for a maximum working week of 44 hours, and approximately 1,400,000 of the 11,000,000 workers employed in industries subject to the act had been working more than the maximum of 44 hours provided by the act. The maximum hours of the law are normal hours or scheduled hours; average hours per week as published by the Bureau of Labor Statistics are affected by part time, labor turnover, and other factors.

In all manufacturing industries combined, average weekly hours in 1938 were 35.5. The average in August 1938 was 36.5 and in August 1939, 38. This increase resulted not from a rise in normal or scheduled hours but from less part time and greater regularity of employment. Similar increases are observable in some of the nonmanufacturing industries, notably in bituminous-coal mining and anthracite mining.

Some of the nonmanufacturing industries were not subject to the provisions of the Fair Labor Standards Act. In many of the separate manufacturing industries, the effects of the act on hours are apparent. Average weekly hours in the cottonseed oil, cake, and meal industry, for example, were 46.8 in August 1938 and 42.3 in August 1939, a sharp drop in contrast to the considerable rise in all manufacturing industries combined.

When the manufacturing industries are arranged in ascending order of average weekly hours in the year 1938, it is found that one-fourth of the wage earners in manufacturing industries were employed in the 23 industries with the highest average weekly hours, ranging from 37.5 in book and job printing and publishing to 49.1 in cottonseed oil, cake, and meal. In all of these 23 industries combined, average weekly hours fell from 40.7 in August 1938 to 40.1 in August 1939. This decline is in contrast to the considerable rise from 36.5 to 38 in all manufacturing industries combined and is a significant indication of the effects of the Fair Labor Standards Act in reducing hours.

**Weekly Earnings.**—In manufacturing industries as a whole, average weekly earnings in August 1939 were \$24.52. This figure was 7.4 per cent higher than the figure for August 1938. There was a significant difference between the average for durable goods and nondurable goods, the average for the former in August 1939 being \$27.92 and for the latter, \$21.58. The upturn in business found characteristic expression in a comparatively large increase in employment and reduction of part time in the durable-goods industries. The increase in average weekly earnings in the durable-goods industries between August 1938 and August 1939 was 12.4 per cent, and in the nondurable-goods industries only 1.6 per cent. Among the 90 manufacturing industries, only nine had declines of more than 1 per cent during the 12 months. The increases in the separate manufacturing industries ranged as high as 24 per cent in blast furnaces, steel works, and rolling mills and 23 per cent in machine tools and in locomotives, all of these industries being notably affected by the upturn of business and accompanying increases in weekly hours.

Weekly earnings tended to rise, especially toward the end of the year, mainly because of the greater regularity of employment with a consequent reduction of part time and increase of hours worked. After



## LABOR CONDITIONS

August 1939, two additional factors affected earnings. One of these was the outbreak of war in Europe, which stimulated production and increased the regularity of employment in some industries and even brought about some overtime, usually with higher rates of pay. After Oct. 24 weekly earnings were also affected by the new minimum rate of pay (30 cents an hour) and the new maximum working week (42 hours). The law affects the earnings of workers whose rates are above the minimum only through overtime provisions, and in some industries its operation may have a slight downward effect on average weekly earnings.

**Estimated Effect of the Fair Labor Standards Act.**—On Oct. 24, 1939, the 30-cent minimum and 42-hour maximum of the Fair Labor Standard Act became operative. Estimates for April 1939 indicated that at that time 12,300,000 persons were employed in the industries and occupations subject to the act, that between 600,000 and 700,000 were then receiving less than 30 cents an hour, and that about 2,400,000 were working more than 42 hours per week. About 90 per cent of the persons receiving less than 30 cents an hour or working more than 42 hours were employed in the manufacturing, wholesale-trade, and motor carriers' industries. The largest percentages of workers receiving less than 30 cents an hour were in southern cottonseed oil, cake, and meal plants, southern sawmills, and southern fertilizer establishments. The largest single concentration was in southern sawmills, where at least 94,000 out of about 134,000 workers received less than 30 cents an hour. In each of 20 states, 25 per cent or more of the workers under the Fair Labor Standards Act were working more than 42 hours per week. These states included Florida, Georgia, the central South, and most of the states west of the Mississippi except Washington, Oregon, and California.

The wage problem as dealt with by such measures as the Fair Labor Standards Act is illustrated by the wide range of earnings by industry,

by region, and by establishment shown by the annual study of average hourly entrance wage rates. In the 20 industries surveyed in July 1939 the average in the North and West was 55.7 cents, and the average in the South and Southwest was 33.7 cents. The range of common labor entrance rates by industry for the country as a whole was from 64.2 cents in petroleum refining to 36.2 cents in the fertilizer industry. The range of these rates by individual workers may be illustrated by the lumber industry rates—from about 67.5 cents to less than 25 cents. In the country as a whole, 42.1 per cent of entrance-rate workers in this industry received not more than 25 cents, and in the South and Southwest, 71.3 per cent received not more than 25 cents.

### WAGE AND HOUR POLICIES

**Public Interest.**—The year 1939 was marked by comparative stability of wage rates and by few important changes in weekly earnings. Most of the slight increases in weekly wages were due to longer hours worked, and the increases in hours in turn were due mainly to reductions in part time and not to changes in scheduled or normal hours of work.

Although there were few marked changes in rates of pay and in scheduled working hours, there was an unusual interest in wages and hours for several reasons. The Fair Labor Standards (Wage and Hour) Act first became effective in October 1938, and the second change in rates and hours provided for by the act occurred in October 1939. Significant changes occurred in the administration of the act and there was widespread discussion of proposed amendments to the act itself. There was general interest in the effects of the fundamental change in public policy embodied in the act.

Other phases of public policy affecting wages and hours were embodied in the Public Contracts (Walsh-Healey) Act and interest in the administration of this act was heightened by litigation in the courts affecting its administration. Another



phase of public policy even more important in arousing interest in wages and hours was embodied in the legislation providing for emergency employment, particularly by the Works Progress Administration which was significantly modified and renamed the Work Projects Administration.

The rapid increase of trade unionism in recent years led to the adoption of collective bargaining and the acceptance of trade agreements relating to wages and hours in many fields of employment previously not subject to such agreements. Some gains, from the point of view of wage earners, were embodied in trade agreements but the year was most significant for the retention of previous gains.

Interest in wages and hours found expression in the continued discussion of the possible connection between changes in wages and hours and in the volume of employment. Some observers argued that the rise in employment was retarded by increases in labor cost; and others held that higher wages, accompanied by rising labor productivity and increased purchasing power, tended to increase employment.

With the outbreak of war in Europe in September, new forces came into operation affecting wages, working time, types of production and employment, and prices. As a result, there was an intensification of interest in wages and hours.

**Administration of Fair Labor Standards Act.**—The first few months of administration of the Fair Labor Standards Act led to recommendations for minor changes in the law, such as the exempting of white-collar workers paid as much as \$200 per month from the 44-hour week provision, the exempting of telephone operators in exchanges having not more than 300 subscribers, and the clarification of certain terms such as "area of production" and "seasonality and perishability." These proposals for clarification and minor changes were seized upon by various interested groups as an occasion for proposing much more drastic changes, particularly the complete exemption

of employers of persons engaged in the producing, processing, and handling of farm commodities, and particularly of foods "from field to table." Other important amendments would have applied to lumbering and pulp operations and to industrial homework. The ensuing controversies in Congress and in the country at large led to the retention of the law in its original form but precipitated an administrative reorganization and seriously slowed up the work of interpreting and enforcing the law. Late in the year the field staff, particularly of the Cooperation and Inspection Branch, was greatly strengthened in an effort to speed up the enforcement of the law.

The administration of the Fair Labor Standards Act, which was placed under the newly created Wage and Hour Division of the Department of Labor, included not only the enforcement of the statutory minimum of hourly earnings and the statutory maximum of weekly hours but also the possible fixing of industry minimum rates of pay above the general minimum. In the carrying out of this part of the law, the administrator of the Wage and Hour Division, up to the end of 1939, appointed 10 industry committees for the following industries: cotton, silk, rayon, and certain other textiles; woolen textiles; apparel; hosiery; hats; millinery; shoe manufacturing and allied industries; the knitted outerwear industry; the knitted underwear and commercial knitting industry; and railroad carriers. Up to the end of 1939, recommendations had been made by all the committees except the railroad carriers committee, but the recommendations had not been formally adopted and put into effect in any of the industries except in cotton, silk, and rayon textiles and in the hosiery industry. In the first of these the committee recommended a minimum rate of 32.5 cents per hour, to be effective on Oct. 24, the date of the general change from the 25-cent to the 30-cent minimum. In the second, the hosiery industry, the committee recommended a minimum of 32.5 cents per hour for the seamless

## LABOR CONDITIONS

branch of the hosiery industry and 40 cents for the full-fashioned branch. It was ordered that the findings of this committee should become effective on Sept. 18, 1939. In the millinery industry, the recommendation of the industry committee for a 40-cent minimum was approved on Dec. 19, but the new minimum was not to become effective until Jan. 15, 1940.

**Public Contracts Act.**—Another public policy that had some bearing on wages and hours was embodied in the Public Contracts (Walsh-Healey) Act. This law went into effect Sept. 28, 1936. During the entire period of the operation of the law up to Nov. 25, 1939, the Division of Public Contracts of the Department of Labor reported that 18,540 contracts, valued at \$1,436,596,000, had been awarded to firms which agreed to comply with the provisions of the law. During the year 1939, minimum wage determinations were issued in connection with contracts in a wide variety of industries, the determinations affecting both hourly earnings and weekly earnings and providing in many instances for regional differentials.

**Work Projects Administration.**—Important changes were made in the earnings and hours of persons employed on emergency relief projects. The Emergency Relief Appropriation Act of 1939, approved June 30, provided that there should be no substantial change in the national average labor cost per person of the Work Projects Administration, but the act provided that after Aug. 31 regional differences in monthly earnings should not be greater than differences in cost of living. This provision of the law meant substantial increases in W.P.A. wages in southern states and a reduction in some other areas. The law also provided that hours of work should be made more nearly uniform for the workers receiving different rates of pay, the number of hours per month being fixed at 130, with authority by the Commissioner of the W.P.A. to require a lesser number of hours per month in the case of relief workers with no dependents, the monthly

earnings of such workers to be correspondingly reduced. It was also provided that W.P.A. workers should not work more than 8 hours in any day and not more than 40 hours in any week.

In putting the legislation into effect, the Commissioner issued orders providing for three regions, the first consisting of the northeastern and northern states westward to the region of the Dakotas, the second consisting of far western states, and the third of southern and southeastern states. Each wage region was broken down by counties into four population classifications with wage differentials depending on the degree of concentration of population: areas with the largest town under 5,000; areas with the largest town between 5,000 and 25,000; areas with the largest town between 25,000 and 100,000; and areas with a city of more than 100,000 population. In addition, workers were grouped under five classifications, namely, professional and technical, skilled, intermediate, unskilled "A", and unskilled "B". These changes in wage classifications reduced the number of wage schedules from more than 4,000 to 60. The lowest of the 60 monthly wage rates was \$31.20 paid to the "B" class of unskilled workers in southern counties without any town of as many as 5,000 population. The highest rate was \$94.90 which was the rate for professional and technical workers in areas with cities of more than 100,000 population in both the first and the second wage regions. It was estimated that the schedule of wages increased the national wage average of W.P.A. workers about \$2.50 per month, but the amount of time worked was also extensively increased, especially by skilled workers and professional and technical workers.

**Labor Organizations and Collective Agreements.**—The effects of public policies on wages and hours in 1939 were noteworthy partly because these policies initiated significant methods of dealing with problems previously viewed as almost wholly subject to determination either by employers alone or by em-

## XVI. LABOR AND LABOR LEGISLATION

ployers and their employees. These methods, to be sure, assumed a continuance and strengthening of collective bargaining, and the effect of collective agreements on wages and hours was in fact greater in 1939 than in many previous years.

It is true that there were few significant changes either in wages or in hours as embodied in collective agreements. One noteworthy exception was the agreement entered into late in November 1939 by the Chrysler Corporation and the United Automobile Workers of America. This agreement provided for a general rise of 3 cents an hour, with a larger increase for some workers and with a total increase of approximately \$5,000,000 a year. Another exception to the general stabilization of wages in the collective agreements of 1939 was the series of arrangements in the full-fashioned hosiery industry. The American Federation of Hosiery Workers formerly insisted on a uniform national wage policy on the part of employers with whom the union had agreements. The severe competition of nonunion plants created difficulties in the modernizing of plants by many employers who had union wage agreements and led the union to adopt what was called an "individual wage policy." In the fall of 1938 the national union inaugurated a "rehabilitation" program by which concessions were granted to employers in return for the installation of new equipment for aiding unionized establishments in competing with nonunion plants. The union officials tended to shift their emphasis from high piece rates or hourly earnings to weekly earnings and stability of employment.

In general, collective agreements in 1939 were marked by the retention of earlier gains rather than by advances in rates of pay, reductions in hours of work, or extension into new fields of employment. The uncertainty of price conditions in a period of war and rapid change of types of production found reflection in some of the recent trade agreements. The point of view of trade unions is generally opposed to an automatic tying

of wages to the cost of living, for this would mean in effect a denial of opportunity for an increase in real wages. It is generally held that wage rates should increase when expanding business, improved techniques, and lowered production costs make such increases practicable. Some agreements relating to wages have contained provisions for the reopening of negotiations regarding wages when living costs increase. In some cases increases are specified in the agreements; and in a few cases there are provisions for a downward adjustment of wages under specified conditions of declining cost of living. One agreement provides for a periodic increase of 1.5 per cent every six months in real wages during the life of the agreement, which covers a period of five years.

### PRICES AND COST OF LIVING

**Cost of Living.**—The Bureau of Labor Statistics index of cost of living, which is published on a quarterly basis, showed a decline of 1.9 per cent from June 15, 1938 to June 15, 1939. The items included are food, clothing, rent, fuel and light, house-furnishing goods, and miscellaneous items, the last named consisting in considerable part of services. In all of these items there were at least slight declines during the 12 months. There were declines in all except one of the 32 cities covered in the cost-of-living survey. Between June 15 and Sept. 15, 1939, there was an increase of 1.2 per cent in the general index of cost of living. The increases extended to all except two of the 32 cities, and in these the declines were nominal. There were increases in all of the items of cost of living with the exception of rent, and the decline shown for rent was nominal.

**Retail Prices.**—In August 1939 the retail cost of food in 51 cities combined was 4.2 per cent lower than in August 1938. There were declines in all the main food groups except fresh fruits and vegetables. The general cost of food fell 1.8 per cent between July and August 1939. Thereafter there was an abrupt reversal. In September the Bureau of Labor Sta-



## LABOR CONDITIONS

tistics inaugurated a weekly retail price service giving the prices of 15 foods in 13 cities. The main upturn in the general level of food prices occurred early in September, and toward the end of September the trend was reversed. On Nov. 8 the general level of the costs of 15 foods in the cities covered was 7.7 per cent above the level of Aug. 15, the largest advance being 24.1 per cent in the price of eggs. On Dec. 5 the general level had fallen but was 4.7 per cent above Aug. 15. Outstanding increases from Aug. 15 to Dec. 5 were 18.7 per cent for navy beans, 17.8 per cent for flour, 16.3 per cent for butter, and 13.6 per cent for pink salmon.

**Wholesale Prices.**—The general level of wholesale prices in August 1939 was about 25 per cent below the general level of 1926, the base year of the Bureau of Labor Statistics price indexes. From August 1938 to August 1939 there was a general decline of 4 per cent, with declines of 9.4 per cent in farm products, 7.9 per cent in foods, 6.9 per cent in raw materials, and 5.5 per cent in fuel and lighting materials. The largest increase in major groups was the 2.9 per cent rise in textile products. The general trend of wholesale prices immediately preceding the outbreak of war in Europe was slightly downward. The war marked a reversal of trend in all of the main groups, and on Dec. 9 the general index of all commodities was 5.3 per cent above the August average.

The significance of the wholesale-price situation after August becomes more apparent in the light of fluctuations in the prices of particular commodities. When the average August price is used as the base, the daily price fluctuations by Dec. 18 reveal several important increases. On Dec. 18, No. 2 hard wheat was 66 per cent higher than the August level, and No. 2 dark northern spring wheat was 53 per cent higher. On Nov. 2, bur-lap was more than twice as high as in August; on Oct. 9, wool was 55 per cent higher; on Sept. 5, cocoa was 55 per cent higher and rubber was 50 per cent higher; on Sept. 27, zinc, particularly important in making gal-

vanized steel, was 35 per cent higher; and on Dec. 13, cotton was 24 per cent higher. With the exception of wheat, the Dec. 18 quotations were somewhat lower than prices at the earlier dates mentioned. Wheat and cotton reached levels higher than any during the preceding two years. Bananas, although imported and largely controlled by a single domestic corporation, rose almost 50 per cent in price during a single week.

The price situation after the outbreak of war gave rise to problems of general concern. Such agencies as the Bureau of Labor Statistics, Temporary National Economic Committee, and Federal Trade Commission undertook to watch price changes and to keep the country informed about the causes and extent of the changes. Consideration was given also to the possibilities of action under the anti-trust laws or other legislation. It was widely held that such price increases as followed the World War were unnecessary and undesirable as tending toward lower real wages, abnormal agricultural and industrial expansion, inflated values, high fixed charges, and a long and painful readjustment.

### FARM LABOR

The exceptional popularity of certain literary productions such as *Tobacco Road* and *The Grapes of Wrath* is an indication of the unusual interest in farm labor and rural conditions. The year 1939 was marked by extensive revisions of statistics relating to farm labor and by the publication of a number of important new studies. Revisions include estimates of changes in the number of hired workers and family workers on farms; the average wage rates paid to hired farm labor by states and regions; and total wage payments in cash and perquisites to hired farm workers.

The number of family workers on farms depends vitally on industrial conditions. After 1929 farm production declined and yet the number of family workers on farms increased because many urban workers sought a



## XVI. LABOR AND LABOR LEGISLATION

living by subsistence farming or by market farming on a crude and restricted basis. After 1935 the number of family workers on farms declined. The number of hired farm workers increased from 1934 to 1937 and declined slightly during the next two years. The increase of commercial farming on a large-scale basis and the loss of farms by tenants and small-scale operators tended to increase the number of hired farm workers, but the rapid mechanization of agriculture, the falling off of exports, and the restricted purchasing power in home markets tended to reduce the demand for labor on farms. In the processing, packing, and transportation of farm products there is a large amount of labor that is in the ill-defined area bordering on both agriculture and urban industry.

Hired farm workers are employed under conditions that make difficult the use of methods either of organized self-help or of public action under labor legislation. During the depression, the general farm wage rate went down to less than half of the 1929 rate. In 1938 the rate was still a third lower than in 1929, and yet there was a further decline in 1939. Farm wages thus continued to reflect the difficulties of hired farm workers in obtaining a share of the increased income of farm operators resulting from improved business conditions and from public policies in aid of agriculture.

Several studies of the agricultural aspects of recent changes in industrial techniques and their effects on reemployment opportunities were published during the year by the National Research Project of the Work Projects Administration. These studies included surveys of farm-city migration and the interrelations of

agriculture and industrial labor, and they made increasingly apparent the problems of extending public policies to hired farm workers and many types of tenants. These form in a sense a no-man's land of public policy, barred alike from the benefits accruing to farm operators and from the protection afforded to industrial labor by such measures as the Social Security Act, Fair Labor Standards Act, and National Labor Relations Act.

The administrator of the Farm Security Administration, in describing the problems of migrant farm workers, pointed out the effects of mechanization and rural unemployment in changing rapidly the pattern of farm labor. This means, he stated, a new way of life for the agricultural worker, a way of life which so far does not offer stability of residence, security, adequate income, or wholesome environment. Mechanization, it was pointed out, has tended to eliminate most of the resident labor formerly used but large numbers are still required for short periods to do the hired labor of thinning, harvesting, and packing, not yet fully mechanized. The Farm Security Administration has undertaken to ameliorate the conditions of migratory farm labor in certain areas of acutest need by the establishment of labor camps. The number of camps by the end of 1939 was 32, located in California, Oregon, Washington, Idaho, Arizona, Texas, and Florida. It was reported, however, that the main efforts of the Farm Security Administration were directed to checking migration at its source by means of rehabilitation and tenant-purchase programs for helping needy farm families to get a new start in their own communities.

## EMPLOYMENT CONDITIONS

### EMPLOYMENT CONDITIONS

By IRMA RITTENHOUSE

DIVISION OF PLACEMENT AND UNEMPLOYMENT INSURANCE,  
NEW YORK STATE

#### FLUCTUATIONS AND TRENDS

In 1939 the improvement in employment conditions which began in the latter half of 1938 continued. In the first six months of the year the level of employment in factories scarcely did more than hold its own after the 1938 winter recovery, but in the late summer an upturn began which was not attributable to seasonal causes alone. The monthly average of factory employment for the first nine months of 1939 was 94.5, compared with 88.5 in the same period of 1938, 110.1 in 1937, and 106.4 in 1929. The decline in total non-agricultural employment which took place in January 1939 as compared with December 1938 was attributable primarily to seasonal influences and was much smaller than the pronounced decline in the same month of the preceding year. February and March showed slight gains, followed by a general retardation until late summer. In July 1939 there were 1,200,000 more workers engaged in non-agricultural employment than a year ago, and in September total employment was at the highest level since December 1937, with further improvement expected for the end of the year.

Nevertheless, the year as a whole revealed no significant improvement in the unemployment situation created with the beginning of the depression in late 1929. Since 1929 about 6,000,000 new workers have come into the labor market, according to the Bureau of Labor Statistics. In the nine-year period to the end of 1938 it is estimated that 43,000,000 man-years of productive work have been lost. Even with a return to the 1929 level of industrial activity, the unemployed would number 7,000,000 to 8,000,000.

The Federal Reserve Board index of industrial production (adjusted for

seasonal variations) was at 101 (1923-1925 = 100) in January 1939, dropped throughout the spring and summer, and turned sharply upward in the fall. In September 1939 the index stood at 111, equal to the September 1937 level and the highest of any year since 1929. The September expansion of business activity reflected the war in Europe, since there was heavy buying in expectation of price rises. In October factory output again increased, with manufacturers attempting to fill the orders of the preceding month. In a few industries (steel ingot production, rayon yarn manufacture), production approached the practical limits of capacity in the fall of the year.

The most conspicuous feature of the improvement in employment conditions in 1939 was the recovery of the durable goods industries (stimulated by the increased demand from the automobile, railroad, public utility, and housing industries). This manufacturing group had suffered the most severe employment losses since

#### INDEXES OF EMPLOYMENT

1937-1939  
(1923-1925 = 100)

	All Manu- facturing	Durable Goods Group	Non- durable Goods Group
1937 average	105.8	104.0	107.6
1938 average	86.0	76.2	95.4
1939			
Jan.....	89.5	81.6	97.0
Feb.....	90.7	82.6	98.4
March....	91.4	83.5	98.9
April.....	91.2	84.1	98.0
May.....	90.1	83.3	96.7
June.....	90.6	83.9	97.0
July.....	90.5	82.1	98.5
Aug.*....	96.4	84.1	108.1
Sept.*....	100.0	89.4	110.2
Oct.*....	103.3	95.5	110.6

\* Adjusted to 1937 Census of Manufacturers, except for automobiles.

## XVI. LABOR AND LABOR LEGISLATION

1929, after a substantial growth for half a century. The table (p. 607), derived from Bureau of Labor Statistics figures and showing seasonal fluctuations, demonstrates the 1939 recovery in employment in the durable goods industries. (The factory and payroll indexes issued by this Bureau were, according to custom, adjusted during the year to the latest Census of Manufacturers data, and the index numbers beginning in August 1939 are, therefore, not comparable with earlier months.)

Among the manufacturing industries which showed improvement in employment levels in 1939, the aircraft industry was outstanding. In February 1939 employment in the manufacture of aircraft was at the highest level since June 1937. The marked change in the relative position of this industry is reflected in the employment index of 940.9 in February 1939, as compared with an average of 100 in the years 1923-25. Throughout 1939 the expansion of employment in aircraft production continued, and by September employment was nearly three times as great as in 1929, and had reached an all-time high.

Railroads also expanded their activity. The purchase of equipment and rails was increased in the fall of 1939, contributing to the activity of the steel industry, and railroads increased their working forces in the repair shops at the same time. The index of employment in shipbuilding was above the level for 1923-25 in 1939, and stood at 129 in September. Manufacture of machine tools was also stimulated during the year, and small employment increases occurred, except for seasonal shutdowns, each month through October.

Employment in non-durable goods industries improved relatively little during the year. Ignoring seasonal fluctuations, employment in these industries declined slightly in the first five months of the year and recovered only to a minor degree from July to September.

The following table shows employment levels in selected industries for September 1939, compared with the

same month a year ago. These figures have been adjusted to the 1937 Census of Manufacturers, except for the automobile series.

### INDEXES FOR SELECTED INDUSTRIAL GROUPS

(U. S. Bureau of Labor Statistics)

Industry Group	Indexes of Employment (1923-25 = 100)	
	September, 1939	Per Cent Change from September, 1938
Durable goods.....	89.4	+17.8
Non-durable goods....	110.2	+2.7
Selected durable goods industries:		
Iron and steel.....	96.4	+14.4
Machinery.....	100.3	+17.4
Electrical equipment	92.2	+18.0
Automobiles.....	96.9	+49.4
Aircraft.....	1,466.5	+89.4
Agricultural imple- ments.....	116.1	+23.0
Lumber and allied products.....	70.1	+7.4
Selected non-durable goods industries:		
Textiles.....	104.5	+3.2
Food products.....	150.7	+0.3
Leather products....	97.8	-0.4
Tobacco manufac- tures.....	66.4	-2.1
Chemicals and pe- troleum refining...	117.7	+2.7
Paper and printing..	113.2	+3.5

### EMPLOYMENT IN MINING

Indexes of employment in mining are presented in the table below (1929 = 100). The index for 1939 covers the first nine months of the year. The indexes for coal mining have been adjusted to the 1935 Census of Manufacturers.

Only slight changes occurred in employment in anthracite mining until August, when the advance was contra-seasonal and the first advance in that month for six years.

Working forces in the bituminous coal industry were severely curtailed in April 1939, dropping 70 per cent and affecting 280,000 workers, because of suspension of operations pending the negotiation of a new union-man-

## EMPLOYMENT CONDITIONS

agement agreement. By July employment had revived, and slight further increases occurred in September and October. Increases in payrolls in this industry were more marked than increases in employment in the third quarter of the year, reflecting increased output and more general full-time work schedules.

Metalliferous mining showed only small employment fluctuations during the year.

certainty as to the possibilities of expansion in industrial construction, owing to the fact that industry has not been operating at capacity in most cases, and hence vacant properties are available for use in case of increased war demands or continued internal recovery.

Accurate and complete figures on employment in construction are not available. Since actual employment lags behind the award of contracts,

### MINING EMPLOYMENT

	Employment Index, 1933	Employment Index, 1938	Employment Index, 1939 (9 months)	Per Cent Changes September, 1938, to September, 1939
Anthracite.....	59.5	52.3	50.4	+6.4
Bituminous.....	79.9	86.7	73.7	+2.6
Metalliferous.....	34.6	59.0	61.5	+14.3

### CONSTRUCTION

The dollar value of construction contracts awarded monthly is reported by the F. W. Dodge Corporation for 37 eastern states. The Federal Reserve Board index of such awards, adjusted to eliminate the effect of seasonal variations, and with 1923-25 = 100, showed a steady decline from December 1938 through June 1939. In December 1938 the index was at 96, and six months later it stood at 63. Both factory construction and public works awards fell off in dollar value during this period. In the fall of 1939 a slight upturn occurred in the total figure. The program of the Federal Housing Administration, involving insurance of mortgages for private home owners, continues to create a significant type of building activity. In the first 38 weeks of the year, awards for residential construction were valued at \$965,000,000, the largest total for any comparable period since 1929, and half again as large as in the same weeks of 1938. Public-ownership awards represented 11 per cent of all residential contracts in the first seven months of 1939, and rose to 25 per cent in August.

There is, however, considerable un-

the employment fluctuations reflecting the movements described above have not yet expended themselves fully.

Changes in construction employment as reported by over 14,000 private building contractors to the U. S. Bureau of Labor Statistics are shown in the following table:

### PER CENT CHANGES IN EMPLOYMENT IN BUILDING CONSTRUCTION

1939	From Preceding Month	From Corresponding Month of 1938
January.....	-11.5	-12.9
February.....	-2.5	-10.8
March.....	+6.4	-4.2
April.....	+10.8	+0.7
May.....	+6.7	+4.3
June.....	+1.4	+5.5
July.....	+4.5	+8.9
August.....	+0.8	+6.9
September.....	+0.6	+8.0
October.....	-0.4	+4.1

In contrast to 1938, when every month witnessed considerable declines from the preceding year, construction employment according to these reports showed improvement



## XVI. LABOR AND LABOR LEGISLATION

over 1938 from April onward. The January and February 1939 declines were unusually small for those months. Only two post-depression years, 1934 and 1936, showed greater employment increases in March than occurred in 1939. Only moderate monthly increases, however, were shown for the rest of the 1939 building season.

These indexes do not include public construction projects financed by the PWA, RFC, WPA, or by regular appropriations of the Federal, state, or local government.

### RAILROADS

Employment on railroads in recent years has been affected by the increasing competition of other means of transportation and by technological improvements that reduced the amount of labor required, as well as by the cyclical depression.

Since 1929, not only employment in railroad transportation, but also employment in manufacture of ways and structures and of equipment have reflected the fluctuations in net railway operating income. The manufacture and repair of cars and locomotives has been especially affected by the declines in traffic during the depression. The low point in employment in manufacture of cars and locomotives was reached in the middle of 1933. Federal aid to the railroads in 1934 began an upward trend in manufacturing employment which continued to the middle of 1937. At that time, the index of employment in car manufacture reached the level of 1929, though it was still far below the index for the early twenties.

Employment in locomotive manufacture, however, although responding to the expansion of 1934-37, did not increase to the same degree. By the middle of 1938, the employment indexes had again dropped toward the 1933 low point. There was some improvement in late 1938 and in the first half of 1939. In September 1939 equipment manufactures began to respond to a spurt of new orders for freight cars, but employment in manufacture of locomotives remained at a low level.

Employment on Class I railroads has been substantially reduced since 1929. In the middle of 1938 it was only half as great as the average employment for 1923-25, as shown in the accompanying table (adjusted for seasonal variations). There was a slight and gradual improvement up to October 1939 when traffic volume reached the highest level since 1930.

### INDEX OF RAILWAY EMPLOYMENT

(1923-25 = 100)

	1933	1938	1939
Jan.....	54.9	56.0	54.4
Feb.....	54.4	54.6	54.8
March.....	52.7	53.4	54.6
April.....	52.2	51.5	53.6
May.....	52.0	50.1	53.0
June.....	52.7	50.1	54.4
July.....	54.2	50.8	54.7
Aug.....	55.6	51.3	54.9
Sept.....	56.7	52.9	55.9
Oct.....	56.1	53.2	57.5
Nov.....	55.5	53.4	...
Dec.....	55.2	54.2	...

### AGRICULTURE

The flow of labor to and from farm areas is affected by industrial activity in cities. Thus, from 1933 to 1935 there was a net gain in farm population; the trend was reversed in 1936 and 1937 when employment opportunities in urban areas increased, and in 1938 there was again some movement back to rural sections.

Over the 30-year period from 1909 to 1939, however, the outstanding characteristic of the agricultural labor market has been the decline in the number of farm workers. Apart from the pull of an expanding industrial economy, this change has accompanied technological improvements in farm production, requiring the use of less labor. There is thus a surplus of farm labor in spite of the cityward trend. In the face of restriction of demand for farm products owing to unemployment and low incomes in the cities and the retardation of the rate of population growth, the output per worker on farms has increased from 73 in 1909 to 110 in 1938 (1924-29 = 100), or about 50 per cent, according to the U. S.

## EMPLOYMENT CONDITIONS

Bureau of Labor Statistics. At the same time, the number of farm workers declined from 107.5 in 1909 to 104 in 1938. It is estimated that there were 12,209,000 family and hired workers engaged on farms in 1909, whereas in 1938, when total population had increased by 44 per cent, the number was 10,745,000.

Variations appear in the numbers of family workers (including relatives, operating owners, tenants and sharecroppers) and hired labor at different periods. From 1909 to 1929, the number of hired workers increased from 2,868,000 to 2,988,000 and the number of family workers declined from 9,341,000 to 8,305,000. With the beginning of the 1929 depression the trend was reversed, owing to the loss of city employment by relatives of farmers and the displacement of hired labor by machinery. An important development of recent years, operating to increase the proportion of family workers in the agricultural field and to decrease the output per worker, has been the growth of subsistence farming. The areas which now show the highest proportions of hired as compared to family labor

labor on farms are not comparable to those in industry, since in the slack season farmers and their relatives work away from the farms or are at school, and their year's experience does not show "unemployment" in the customary sense. Seasonal variations in employment of hired labor, however, are not only more significant of unemployment, but are also more severe than those of family labor. Thus, January employment is 30 per cent below the monthly average and July employment is 20 per cent higher, while family employment changes in the same months are 16 and 15 per cent respectively.

Underemployment of farm labor is marked; according to the 1930 Census of Agriculture, the farmers reporting the use of hired labor in 1929 averaged only 156 days of use of such labor during the year.

The Agricultural Marketing Service of the Department of Agriculture publishes figures on the employment of family and hired workers. The table below shows the total numbers employed in selected months in 1938 and 1939.

### FARM EMPLOYMENT

(Family and hired labor combined)

	Thousands of Persons					
	July 1, 1938	Sept. 1, 1938	Dec. 1, 1938	July 1, 1939	Sept. 1, 1939	Dec. 1, 1939
UNITED STATES.....	12,473	11,594	9,482	12,215	11,659	9,320
New England.....	284	273	243	277	287	234
Middle Atlantic.....	719	658	568	728	644	571
East North Central.....	1,688	1,538	1,408	1,611	1,519	1,419
West North Central.....	1,942	1,794	1,602	1,905	1,835	1,587
South Atlantic.....	2,574	2,271	1,711	2,458	2,268	1,699
East South Central.....	2,010	1,928	1,486	2,027	1,944	1,411
West South Central.....	2,143	1,895	1,609	2,118	1,903	1,538
Mountain.....	527	540	398	501	518	395
Pacific.....	586	700	457	590	741	466

are California and Florida, the eastern dairy region, and the range and northwestern areas.

Seasonality in farm employment also has a different incident on family and hired labor, according to the Bureau of Labor Statistics. Seasonal fluctuations in employment of family

### PUBLIC UTILITIES, TRADE, AND HOTELS

There was little change in employment in public utilities, wholesale and retail trade, and year-round hotels during 1939.

The public utilities, which are relatively free from sharp cyclical fluctua-

## XVI. LABOR AND LABOR LEGISLATION

tions in employment, have released substantial numbers of employees owing to technological changes in the past ten years. Winter layoffs of construction crews are reflected in a seasonal employment decline in the first two months of 1939. There were only slight monthly variations after February until the end of the year when an improvement in employment occurred.

In the late spring of 1939 and again in the fall, retail trade began to show slightly greater than average seasonal gains in employment. Employment fluctuations in wholesale trade in 1939 were mainly seasonal, except for a severe drop (24.2 per cent) in firms wholesaling farm products in April and a better than usual fall upturn. In September 1939 the employment level was above that for any of the 18 preceding months.

Year-round hotels showed no significant employment changes during the year.

The tabulation below is based on Bureau of Labor Statistics data (1929 = 100). The indexes cover all employees except officers, executives, and certain supervisory employees.

employed only 1,718,896 persons. Federal construction projects financed by the Works Program showed an employment rise from 121,095 in the maximum week in January to 169,851 in the maximum week in July and a drop to 81,319 in September. Employment on regular Federal construction increased seasonally during the spring and summer. Construction employment financed from PWA funds increased in the first half of the year but began to decline from August to September owing to near completion of 1935-1937 programs and limited new awards under the 1938 program. Employment in the Civilian Conservation Corps during the first nine months of the year ranged from 337,000 in February to 312,000 in September. State employment on construction and maintenance of highways declined from January to July and then rose seasonally, but in July stood at 146,202 as compared with 199,470 in the same month of the preceding year, and in September at 160,615 as compared with 205,248 in September 1938. Civilian employment in the Federal Government in the first ten months of 1939

	(Per Cent Change over Same Month in 1938)				
	January, 1939	March, 1939	May, 1939	July, 1939	September, 1939
Telephone and Telegraph.....	-4.8	-1.9	+0.8	+0.7	+0.5
Power, Light and Gas.....	-4.1	-2.6	-0.7	+1.1	+1.5
Electric Railroads and Motorbus...	-4.2	-1.8	-1.6	-0.6	+0.8
Wholesale Trade.....	-3.2	-2.0	-0.3	+1.3	+2.2
Retail Trade.....	-2.2	+1.0	+2.3	+3.1	+3.1
Hotels.....	-2.6	-0.7	+0.3	-0.5	-0.7

### PUBLIC EMPLOYMENT AND RELIEF WORK

Employment on WPA, which employs more workers than any other single government agency, increased slightly from 2,895,000 to 2,916,000 on projects from January to March, 1939. Marked reductions then began, accentuated by the new ruling operative Aug. 31, 1939, requiring 30-day layoffs and reestablishment of eligibility after 18 months of service. In September 1939, WPA projects em-

ranged from 864,342 in January to 940,130 in September, dropping to 937,357 in October 1939.

### VOLUME OF UNEMPLOYMENT

The volume of unemployment in the United States has apparently been only slightly affected by the employment improvement in 1939. Estimates of unemployment are based on the trend of employment, the estimated level of the labor supply, and scattered sources of information.

## CHILD LABOR

The following table shows the estimates of the American Federation of Labor and the National Industrial Conference Board for selected months.

	American Federation of Labor Estimate	National Industrial Conference Board Estimate
March, 1933....	15,653,000	15,939,000
March, 1934....	12,420,000	11,744,000
March, 1935....	12,608,000	11,929,000
March, 1936....	12,183,000	10,777,000
March, 1937....	9,367,000	7,415,000
March, 1938....	11,226,000	11,367,000
Jan. 1939.....	11,589,601	10,641,000
March, 1939....	11,145,011	10,401,000
Sept., 1939....	9,450,556	8,196,000

Several studies appeared during the year dealing with the unemployment problem of the oldest worker. The 1937 Census of Unemployment showed that, in five-year age groups from 20 to 64 years, the highest percentage of unemployment occurred among those from 20-24, the proportion then dropped up to age 34, but gradually rose again with each five-year interval. The experience of the older worker in getting and keeping employment of course varies in different occupations and apparently also in different parts of the country. The studies referred to showed a greater permanence of jobs for older workers, but on the other hand an unmistakable employer resistance to

hiring such workers once they have lost their jobs. Thus the WPA reported that in 1938 those who secured employment after separation from WPA averaged ten years younger than those who did not secure jobs. The duration of unemployment of older workers is also apparently above that of the younger group.

Since the introduction of the unemployment insurance system and various other governmental measures for the relief of the unemployed, the statistics of registrations for work at the state unemployment offices have acquired more representativeness than formerly because of compulsory registration at the offices in connection with the programs. Some of the deficiencies of these data are described in THE AMERICAN YEAR BOOK, 1938. At the end of April 1939 a total of over 6,500,000 persons were registered for jobs in the active files of the state employment offices. In July the last two states to begin unemployment benefit payments (requiring registration at the state employment offices) commenced payment. The active file at the end of August 1939 was about 5,800,000, showed a slight decline in September, and stood at 5,460,000 at the end of October. Unemployment can not as yet be measured from statistics published by state unemployment compensation systems because of the limited coverage and other technical deficiencies of the data.

## CHILD LABOR

BY COURTENAY DINWIDDIE

GENERAL SECRETARY, NATIONAL CHILD LABOR COMMITTEE

### THE FAIR LABOR STANDARDS ACT

The first anniversary of the operation of the Federal Fair Labor Standards Act occurred Oct. 24, 1939. The successful completion of one year's enforcement of the child labor provisions of this measure has demonstrated, as did the First Federal Child Labor Law, the efficacy of uniform nation-wide regulation of the employ-

ment of minors. At the same time, the Supreme Court decision of June, 1939, declaring the Child Labor Amendment to be still before the states for ratification, has opened the way for a final effort to incorporate the amendment into the Constitution and give Congress the power to extend to all types of occupations the control over child employment now



## XVI. LABOR AND LABOR LEGISLATION

provided only for interstate commerce industries.

The shipment in interstate commerce of goods produced in establishments employing children under 16 years of age is prohibited by the child labor provisions of the Fair Labor Standards Act. The Children's Bureau of the U.S. Department of Labor, which is charged with enforcement, is authorized to fix a minimum of 18 years for occupations found to be especially hazardous. Outside the fields of manufacturing and mining, children of 14 and 15 may be employed under conditions which the Children's Bureau has determined will not interfere with their schooling, health or well-being.

During the first year of enforcement, close cooperative arrangements were worked out between the Federal Government and the states. State employment certificates are accepted by the Children's Bureau in 43 states and arrangements are being worked out in the others. Employers as well as state labor departments have responded favorably to the legislation, and the 500 violations uncovered during the first ten months after it went into effect were in most cases rectified without resort to court action.

The hazardous nature of work in or about plants manufacturing explosives or articles containing explosives and as drivers or helpers on motor vehicles has been investigated and orders issued fixing a minimum of 18 years for employment in such occupations. The study of other industries is under way.

No judicial test has been made of the constitutionality of the child labor provisions of the Fair Labor Standards Act, and there is no present indication that such a trial will be instituted. Unless there should be unfavorable action by the courts, the measure will have put a final end to the exploitation of children in industries which produce goods for interstate consumption. Unfortunately, however, the major fields of child employment do not come in this category. Agriculture, the street trades

and the purely local occupations, such as domestic service, work in beauty parlors, restaurants, hotels, stores and garages, are not reached by the Fair Labor Standards Act.

### AGRICULTURE

Agriculture employs from 500,000 to 600,000 boys and girls, of whom perhaps more than a third are members of migrant families. The general 16-year minimum set by the Fair Labor Standards Act applies to young people employed in fruit and vegetable canneries, but otherwise agricultural "establishments" are covered only during the hours of required school attendance, and many state laws exempt children from school attendance for work on farms.

In some states non-resident children are not covered by compulsory school attendance laws, and in others little effort is made to enforce laws as they affect the children of migratory workers. Consequently, the migratory children, even when they do not work in the fields, are deprived of normal educational opportunities. Some have never been to school, others attend for only a month or two each year. In New Jersey, where a special type of migration exists, the National Child Labor Committee conducted an investigation in the summer of 1938. A group of 251 families who leave their homes in Philadelphia to work on the farms during the spring and summer, returning to the city in the fall, was studied. It was found that the children in these families had lost an average of 39 school days, and that 42.4 per cent of them were retarded as compared with 19.8 per cent for the city of Philadelphia as a whole.

When to the long hours of work, low pay, exposure to all kinds of weather, and loss of schooling suffered by child laborers in agriculture there is added, as in the case of the migratory children, makeshift housing, unsanitary conditions of roadside camps and exclusion from ordinary health and welfare services, the urgent need for the regulation of child labor of this type becomes apparent.

## CHILD LABOR

### STREET TRADES

The most numerous of the street traders, another category of child laborers not protected by existing Federal legislation, are the newsboys. Boys who come in or about the establishments in which newspapers are produced are covered by the Fair Labor Standards Act, but this affects only a very few delivery boys since in most cases they receive their papers at depots outside the publishing plants. In many states newsboys, since they are held to be "independent contractors" rather than employees, are not covered by workmen's compensation laws and bear full responsibility for the unpaid bills of subscribers on their routes. They are thus forced to assume risks, both physical and financial, of a sort against which even adult workers are generally protected.

The Federal law does not apply at all in the case of bootblacks, vendors of ice cream, candy, etc., and state legislation is generally weak as regards this type of work. In Connecticut, for instance, the Commissioner of Labor was shocked to find a 13-year-old boy selling ice cream under a street lamp at 11 o'clock at night, but he was unable to prevent the boy's staying out until even later if he wished, since street trades are unregulated in Connecticut, even as to hours and night work.

### INTRASTATE TRADES AND OCCUPATIONS

A large group of miscellaneous occupations of a purely local nature, not concerned with the manufacture of goods for interstate shipment, is regulated at the present time only by the extremely unequal state laws. The purely local industries in which children are commonly employed include stores, barber shops, restaurants, laundries, hotels, garages, filling stations and domestic service. While employment of this sort, outside of school hours and under careful supervision may not be harmful, as it is actually practiced it often means that boys and girls leave school at 14 or 15 years of age to do unskilled work for long hours and at pathetically low

wages. They receive no training which will lead to more satisfying employment, and often find, when the opportunity for schooling is past, that they must look forward to a lifetime in low-paid, dead-end jobs.

In addition to these three groups of young children who are not now reached by Federal legislation, there are over 1,000,000 employed boys and girls 16 to 18 years of age only a few of whom are protected against employment in dangerous occupations the hazards of which are especially serious for young and inexperienced workers.

### PROGRESS IN STATE LEGISLATION

State child labor legislation is, unfortunately, weakest as it affects those occupations which Federal law can not at present cover. Child labor in agriculture is generally controlled only indirectly through the operation of compulsory school attendance laws which often set much lower standards for rural than urban districts. The street trades are entirely unregulated in 27 states and in 12 others boys under 12 are permitted to engage in at least some kinds of street work.

The stimulus provided by the enactment of the Fair Labor Standards Act resulted in attempts to raise state legislative standards, and in ten states bills establishing 16-year minima for employment during school hours were introduced during the 1939 legislative sessions. In only two states—Massachusetts and West Virginia—were they enacted into law. This brings to a total of ten the number of states which provide children with protection against other types of harmful employment similar to that afforded for interstate commerce industries by the Wages and Hours Act.

### THE CHILD LABOR AMENDMENT

Improvements in state standards are extremely desirable and much progress in this area may be expected within the next few years as a result of the example set by successful enforcement of the child labor provisions of the Fair Labor Standards Act. However, experience has shown

## XVI. LABOR AND LABOR LEGISLATION

that the states in which child labor is most common are the most backward in enacting regulatory legislation. The pending Child Labor Amendment consequently remains the most effective proposal which has yet been put forward for the equal, nationwide control of child labor in whatever locality or occupation it may occur.

This amendment would enable Congress to enact legislation "to limit, regulate and prohibit the labor of children under 18 years of age." The proposal has received 28 ratifications since it was first submitted to the states in 1924. Kansas and Kentucky, both of which had previously rejected it, were among the states which ratified in 1937. Opponents of the measure in both states challenged the validity of ratification in the courts, claiming that since the amendment had been pending for 13 years and had not yet been ratified by two-thirds of the states, it was no longer alive, and that a state which had once rejected a proposed amendment could not reverse itself and ratify, as both Kansas and Kentucky had done. The cases were carried to the United States Supreme Court which, in its decision of June 5, upheld the decision of the Kansas Court which had ruled that ratification was valid. For technical reasons the Supreme Court did not rule on the Kentucky case.

Only eight more ratifications are needed to make the proposed amendment a part of the Constitution, and

the Supreme Court decision upholding recent ratifications has opened the way for a final drive to complete the process within the forthcoming two-year period during which all the states which have not yet ratified will hold legislative sessions.

### NEW PUBLICATIONS

*The American Child* (published monthly, except during the summer); *Child Labor Facts, 1939*, by Gertrude Folks Zimand; *The National Child Labor Committee; What It Is, What It Does; State Child Labor Legislation, 1939*, by Gertrude Binder (mimeographed); *A Summer in the Country*, by Charles E. Gibbons; *Pick For Your Supper*, by James E. Sidel; *Annual Report for the Year Ending September 30, 1939*, by Courtenay Dinwiddie, National Child Labor Committee, New York; *Child Labor Legislation in the Southern Textile States*, by Elizabeth R. Davidson, University of North Carolina Press, Chapel Hill, N.C., 1939; *The Child and the State. Vol. I. Apprenticeship and Child Labor*, by Grace Abbott, The University of Chicago Press, 1938. *The Child* (published monthly), Children's Bureau of the United States Department of Labor, Washington, D.C., *The Wage and Hour Law*, special issue of *Law and Contemporary Problems*, Duke University, Durham, N.C.; "The Present Status of Child Labor" by Courtenay Dinwiddie in *The Social Service Review* for September, 1939, University of Chicago.

### PERIODICAL PUBLICATIONS

#### *American Child*

419 Fourth Ave., New York City.

#### *American Federationist*

American Federation of Labor,  
Washington, D.C.

#### *American Labor Legislation Review*

131 East 23d. Street, New York  
City.

#### *American Labor World*

36 Duane Street, New York City.

#### *Child (The)*

Children's Bureau, Department of  
Labor, Washington, D.C.

#### *Labor Digest*

1472 Broadway, New York City.

#### *New Masses*

31 East 27th. Street, New York  
City.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

### COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

- 
- |  |  |
|--|--|
| AMERICAN ASSN. FOR LABOR LEGISLATION, 131 E. 23rd St., New York City.                                  | LEAGUE FOR INDEPENDENT POLITICAL ACTION, 315 Fourth Ave., New York City.   |
| AMERICAN FEDERATION OF LABOR, A. F. of L. Building, 9th and Massachusetts Ave., N.W., Washington, D.C. | LEAGUE FOR INDUSTRIAL DEMOCRACY, 112 E. 19th St., New York City.   |
| AMERICAN FEDERATION OF MUSICIANS, 1450 Broadway, New York City.  | MARINE ENGINEER'S ASSN., 157 Chambers St., New York City.  |
| CONGRESS OF INDUSTRIAL ORGANIZATION, Tower Bldg., Washington, D.C.                                     | NATIONAL ASSN. OF LETTER CARRIERS, A. F. of L. Bldg., 9th and Massachusetts Ave., N.W., Washington, D.C.         |
| INTERNATIONAL ASSN. OF GARMENT MANUFACTURERS, 40 Worth St., New York City.                             | NATIONAL CIVIC FEDERATION, 570 Lexington Ave., New York City.  |
| INTERNATIONAL ASSN. OF MACHINISTS, Machinists Bldg., Washington, D.C.                                  | NATIONAL FEDERATION OF POST OFFICE CLERKS, A. F. of L. Bldg., 9th and Massachusetts Ave., N.W., Washington, D.C. |
| INTERNATIONAL LONGSHOREMEN'S ASSN., 265 W. 14th St., New York City.                                    | NATIONAL INDUSTRIAL CONFERENCE BOARD, 247 Park Ave., New York City.  |
| INTERNATIONAL SEAMEN'S UNION OF AMERICA, 666 Lake Shore Drive, Chicago, Ill.                           | NATIONAL INDUSTRIAL COUNCIL, 14 W. 49th St., New York City.  |
| JUNIOR ORDER OF UNITED AMERICAN MECHANICS, 3029 N. Broad St., Philadelphia, Pa.                        | PILOT'S ASSOCIATION, 119 Broad St., New York City.   |
|  | UNITED LICENSED OFFICERS, 15 Whitehall St., New York City.   |



## DIVISION XVII

### RELIGION AND RELIGIOUS ORGANIZATIONS

#### PROTESTANT DENOMINATIONAL ACTIVITIES

BY H. PAUL DOUGLASS

EDITOR, *Christendom*

---

##### INTRODUCTORY

Official representatives of the non-Roman churches have made repeated declarations of their basic common faith. A very large majority of Protestant church membership belongs to denominations associated in two or more of the same interchurch agencies, like the Federal Council of Churches, the International Council of Religious Education, and the Home Missions Councils, so that they increasingly conduct their affairs on the basis of mutual counsels and within an ecclesiastically constituted interchurch structure. This is warrant for reporting upon the activities of their numerous churches under a common heading.

In connection with such a report as this it should be remembered that Protestantism finds its truest expression as decentralized into nearly 250,000 local congregations which, irrespective of differences in the ecclesiastical polities of their denominations, in large measure control their own affairs. This fact seriously limits the adequacy of any generalized statement based upon denominational action through national overhead bodies. Here, too, differences in polity have a real significance. Some churches assign much greater authority to their central bodies than do others. The major work of all consists of routine operations which may not change greatly from year to year.

##### MORAL PROBLEMS RELATING TO WAR

The year 1939, however, presents a unique record of intense Protestant concern over moral problems as related to war. The state of the world generally has advanced the issue of war to the stage of formal theological consideration. The greater number of denominations have declared that war is "sin" and that its existence is in complete opposition to the will of God. Many hold, however, that war may be a lesser evil; that the waging of a "just" war may even be a Christian duty; or that moral obligation to obey constituted secular authority compels a Christian to accept the decisions of Government as to war and peace.

The year's total discussion indicates that American Christians do not agree as to the implications of their doctrine for personal duty. Negatively, they will not condemn another who follows his own conscience, nor break Christian fellowship on account of differences of view. The churches generally have advanced toward the position of giving corporate backing to conscientious pacifists against enforced military service. But there is very general recognition that the thinking of the churches is not yet fully clarified and that no effective common program of action has been reached.

Growing out of these war issues,

## PROTESTANT DENOMINATIONAL ACTIVITIES

Protestant churches in 1939 have engaged in repeated declarations on behalf of suffering minorities, in the setting up of measures to assist refugees, and in increased cooperation with their Jewish and Catholic co-religionists in encouraging resistance to oppression and in the assertion of the supreme authority of God and the autonomy of the church in its own sphere.

### BAPTISTS

#### Northern Baptist Convention.—

The Northern Baptist Convention held a largely attended annual session in Los Angeles during the third week of June. No issues involving the traditional positions of the denomination were up for consideration, though the Fundamentalist group held a pre-convention session. Among important issues considered were: (1) the unification of young people's work; (2) budget research, involving a study of the administrative expenses of 58 recognized agencies sharing in the joint promotional plan, and (3) advanced standards in connection with the ordination of ministers. In the consideration of social issues, the Convention took generally progressive ground, but declined to make formal endorsement of the Wagner Labor Relations Act. The Committee on Public Relations (a joint-agency with the Southern Baptists) adopted a forceful pronouncement against the infringement of religious rights by governmental or legislative action. The Convention voted to join the World Council of Churches with the proviso that it would not be bound by specific decisions of the Council except as they had been ratified by its own action.

Losses of Baptist leaders by death during the year included the Rev. Rivington D. Lord, after a pastorate of more than 50 years in Brooklyn; Rev. Lemuel C. Barnes, a notable leader and administrator of Baptist home missions; the Rev. Maurice A. Levi, corresponding secretary of the Convention. As its president the Convention elected Rev. Dr. Elmer A. Fridell, professor of Pastoral Theology in Berkeley Divinity School,

California, succeeding a layman, A. J. Hudson of Cleveland. Rev. Earl F. Adams of Buffalo was made general director of Promotion for the denomination. A slight gain in church membership over the preceding year was reported, and the denomination approved a benevolence budget of approximately \$900,000.

#### Southern Baptist Convention.—

The Southern Baptist Convention met in annual session at Oklahoma City in May and re-elected as its President, Dr. E. R. Scarborough, head of the Southwestern Baptist Theological Seminary in Ft. Worth, Tex. According to a middle-west Baptist organ the meeting was characterized by "the well-nigh unanimous opposition to the currently popular movement toward union with other denominations. Contributing to the atmosphere of this opposition, was the definite feeling and constantly restated conviction that Baptists have a distinctive message necessary for the salvation of the modern world. Opposition to union of church and state took scarcely second place in the sentiment of the Convention. The Convention soared to unusual heights of feeling and determination against any interference with religious liberty. The formal invitation to the Southern Baptist Convention to join the World Council of Churches met strongly voiced opposition from the floor and was referred to a committee for a report at next year's session.

Action on religious liberty included condemnation of (1) every form of compulsion in religion, (2) of public appropriations in support of sectarian schools, and (3) of governmental diplomatic relations with any church, this latter action referring to the Vatican. The sale of munitions to aggressor nations was denounced, and the sale of war materials to Japan was specifically disapproved. Extreme jealousy of delegated authority in the denomination appeared in objections from the floor of the Convention to the rule requiring that all resolutions go to the Resolutions Committee without reading. The authority of the Public Relations Com-

## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

mittee to make pronouncements was also limited. Finally, the committee on the correlation of promotional activities in local churches advised that "churches should not be embarrassed by standard requirements on the part of any (denominational) organization," but left to work out their own methods. The denomination reported that accessions to membership were 23,000 more than in any previous year, bringing the total to 4,770,000 members in almost 25,000 churches. A total of \$1,116,000 was currently received and expended for home and foreign missions in the past year.

**Baptist World Alliance.**—The Sixth Congress of the Baptist World Alliance occurred in Atlanta, Ga. July 22-28. Delegates from 70 countries, including Russia and Germany, and from all continents, attended. The function of the Alliance is fraternal rather than legislative. Its deliberations were chiefly focussed upon the problems of a troubled world, especially as involving the issue of religious freedom and the status of Baptist minorities in totalitarian countries. The assumption that Christianity essentially involves political democracy was vigorously denied by some of the German delegates. Some of the outdoor sessions of the Congress were attended by upwards of 50,000 people. Sensitiveness was registered as to the possible encroachment of government upon religious liberty even in the United States; and vigorous resolutions were passed against the persecution of Baptists in Rumania and Russia. The issue of race segregation was incidentally raised in connection with some of the local arrangements for the Congress.

### CONGREGATIONAL AND CHRISTIAN CHURCHES

The General Council of the Congregational and Christian Churches meets only biennially and 1939 was an off-year. Important regional meetings of an inspirational character were held, however, in New England and the Middle West. The year was noteworthy as a period of initial testing of a novel theory of leadership initiated by the new General Secre-

tary, Rev. Dr. Douglas Horton who began his active service in January. In accepting his position, Dr. Horton specified he should be designated general "minister" of the Congregational-Christian churches as well as secretary. This marked a general attempt on the part of officials of the denomination to raise their offices above the administrative level to the plane of intellectual and spiritual leadership. This policy has been implemented by unusually intensive visitation of local churches actively participated in by the unsalaried moderator, Rev. Dr. Oscar Maurer of New Haven.

Within the denomination, discussion has revealed the marked impact of the views of influential leaders whose thinking is affected by ecumenical and continental tendencies. These have been countered by stout reassertions of traditional Congregational liberalism, especially as identified with democracy. Doubts have been expressed in certain quarters as to the World Council of Churches. Such exchanges of views have been facilitated by an organized process for "Re-thinking Congregationalism" carried out through the circulation of papers prepared by organized discussion groups in important centers; also, by preparations for the World Council of Congregationalists (originally slated for 1940, but since postponed on account of war).

The denomination has continued its effort to raise supplemental endowments for its pension fund for the support of retired ministers. The denomination's missionary magazine has been combined with 20 state publications into a powerful organ with more than 60,000 circulation. Contention over social issues which have been the chief cause of recent controversy in the denomination has been mollified by the new policy of the Council for Social Action under Rev. Dr. Dwight Bradley, which integrates the field more closely with other Christian interests. The results of the economic plebiscite authorized by the last General Council meeting and participated in by 32,000 Congregationalists, showed small majorities

## PROTESTANT DENOMINATIONAL ACTIVITIES

in favor of government support of agricultural prices, labor unions, and tariff policies. But one-third more favored "further social control of the economic system" than opposed it; one-half more favored the public ownership of electrical utilities than opposed it; while Congregationalists favored consumers' cooperation by a majority of three to one and government jobs for the unemployed by four to one. On all of these issues a minority, averaging ten per cent of the total returns, held that no problem of Christian ethics was involved.

Rev. Dr. Frank Scribner of Oklahoma City succeeded Rev. Lewis D. Reed as General Secretary of the Annuity Fund. Losses to the denomination by death include three theological professors—Robert E. Brown of Oberlin, R. Seneca Smith of Yale, and Carl S. Patton of the Pacific School of Religion—also Walter Rollins, Secretary of the New York State Conference, and distinguished pastors Dan F. Bradley of Cleveland and Edward W. Cross of Springfield, Mass. Denominational statisticians announce the highest average church attendance since 1933 in the churches reporting as a sample; also an appreciable gain in church membership on the basis of total returns.

### DISCIPLES OF CHRIST

Though sixth in size among the non-Roman churches in the United States, the Disciples of Christ conduct their affairs for the United States and Canada through a mass convention in which any member of a local church is eligible to vote. The International Convention for 1939 held in Richmond, Va. was largely attended. A novel feature was the series of forums interspersed throughout the general program, which focused on special interests of modern Christianity.

A long-term study by a special commission on possible changes in the central structure of the denomination was presented for action in 1940. Its recommendations continue essentially the present organization of the Convention, but strengthen it administratively by the proposed ad-

dition of a full-time executive secretary. The Convention adopted a significant report from the Commission on Ordination of Ministers which set forth basic procedures and form of ordination to be carried out under the auspices of the state societies of the Disciples' churches. It also approved higher education qualifications. These actions mark a decided evolution beyond the traditional Disciples' custom of ordination by independently-acting local congregations.

A Joint Youth Commission with the Northern Baptist Convention was proposed as a step toward unity, and was authorized. Negotiations for union with the Negro Disciples were approved. The Convention also voted an appropriation for the support of the World Council of Churches, the organization of which had previously been approved. Among numerous resolutions on social issues, the more significant was a general declaration that war is anti-Christian, that the United States should keep out of the present war, and that the right of conscientious objectors should be recognized by the Government. A second resolution condemned the traffic in munitions and declared that the agencies of the Church do not wish to receive income derived from such a source. The extension of religious teaching in the public schools in co-operation with the school authorities was approved.

A noteworthy departure in religious usage was marked by the extensive use of liturgical material in the public services of the Convention. In view of the previous habits of the denomination, this innovation appears to be somewhat extraordinary but was said to have been received with general approbation. Most of the official heads of the Disciples' Boards and organizations were continued. The presidency of the Convention, which changes annually, went to Rev. H. B. McCormick, pastor of the Lakewood Church, Cleveland, O., formerly head of the Department of Promotion of the United Christian Missionary Society and the recent chairman of the important committee on Structure and Function. No significant



## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

changes in church membership were reported. The United Christian Missionary Society secured and spent a total of \$1,358,000 during the year for the missionary and philanthropic work of the Disciples at home and abroad.

### LUTHERAN DENOMINATIONS

**Meetings and Conventions.**—Most of the major Lutheran bodies held no conventions during 1939. The annual meeting in Washington, D.C. of the Lutheran National Council, an alliance of a large group of Lutheran Churches, passed vigorous resolutions against persecution of Christians in Russia and Jews in Germany, condemned the anti-religious philosophies of the totalitarian states, and took a generally forward-looking position with reference to the Church in its social relationships. The Lutheran Foreign Missions Conference of America, another organization uniting numerous Lutheran churches, was held in Sioux Falls, S.D. in March. The Commission on Church Unity of the American Lutheran Conference, in which are affiliated the American Lutheran Church, Norwegian Lutheran Church of America, Evangelical Lutheran Augustana Synod of North America, the Lutheran Free Church, and the United Danish Evangelical Lutheran Church, continued conversations with the Missouri Synod on the basis of articles accepted in 1938 as "a sufficient doctrinal basis for church union." Their chief point concerned the infallibility and verbal inspiration of the Bible. These articles have been discussed in numerous local conferences of the two groups with generally favorable results. But the statement is still regarded in some quarters as doctrinally inadequate (not erroneous) and the Norwegian Synod and Wisconsin Synod (affiliates of the Missouri Synod) have both passed resolutions adverse to union on these terms. The argument in rebuttal insists that no theological statement can cover every possible point and that far greater omissions may be found in the existing standards of the most conservative synods.

**United Lutheran Church.**—The biennial meeting of the Presidents of Synods was this Church's most representative gathering of the year. Its chief topics of discussion were relationships with other Lutheran bodies, the status of conscientious objectors, and war relief measures and aid for refugees. The Church later assumed important responsibilities for the administration of certain foreign missions of the churches in Germany located in colonies of the belligerent countries, whose missionaries have been interred as enemy aliens. The year was signalized by the initial activities of the new Board of Social Missions. The Board's canvass of the attitudes of the pastors of the church indicated, on the whole, a definite desire for more effective application of the gospel both to individual and social needs. The results were interpreted as a definite break with the "quietist" position and a willingness on the part of the Church to support suitable social legislation. A report of the Committee on Fellowship was announced, recommending closer relations with the American Lutheran Church, but proposing no further action with respect to the Missouri Synod. In June the Icelandic Lutheran Synod voted almost unanimously to unite with the United Lutheran church.

**Evangelical Lutheran Augustana Synod of North America.**—The Convention of the Augustana Synod was held at Lindsborg, Kan. in June. It re-elected Dr. P. O. Bersell of Minneapolis as President. It received an important report on liturgical practice and continued the Commission for further study; passed progressive resolutions on labor, marriage, and war, including disapproval of the sale of munitions to aggressive nations; also protested against "special recognition" given the Roman Catholic Church by the President and Congress and against diplomatic relations with the Vatican. Comity with other Lutheran churches in the establishment of local churches was considered. The invitation to join the World Council of Churches was referred to a committee for report at the next

## PROTESTANT DENOMINATIONAL ACTIVITIES

meeting of the Convention. Slight gains over the last year both in membership and contributions were reported.

### THE METHODIST CHURCH

**Unification.**—The most outstanding event of a century in Methodism was the union in 1939 of the three major bodies—Methodist Episcopal, Methodist Episcopal South, and Methodist Protestant Churches. This was consummated by a Uniting Conference held in Kansas City in May. Subsequent months have been concerned with a multitude of actions implementing the uniting legislation, including the combination of subordinate units of the three churches in territory where duplication existed, and of the administrative, missionary and educational agencies. In the main, unifying measures have been carried out with great heartiness, though the dissent of very small minorities has caused legal action in three or four states. In all cases decided, the courts have ruled unequivocally for the legality of the uniting measures. The unification of the numerous boards of missions into a single board has proceeded gradually. Numerous commissions have been at work carrying forward the elaboration of details left by the Uniting Conference for later decision. The Council of Bishops of the newly united Church held its first formal meeting. Among other actions, it initiated conversations with the Colored Methodist Episcopal Church for the inclusion of that body in the Methodist Church.

**The Church and the War.**—The Uniting Conference passed a ringing declaration on war, calling it "our greatest collective social sin and a denial of the ideals of Christ" which the Methodist Episcopal Church can not "support nor participate in." A resolution urging the exemption of Methodist conscientious objectors from military service and promising them the support of the Church in possible conflict between their consciences and the Government was passed over opposition led by former Governor Alf M. Landon of Kansas.

Declarations of the Council of Bishops returned to the war theme and called for a Christian statement of war aims in connection with the present conflict. Partly because the authority of the Uniting Conference was limited as to putting into operation the plan of union, and partly because, by common consent, the pressing of possibly divisive issues has been deferred so as to not interfere with union, recent Methodist action has not been as progressive as many Methodists have wished. A resolution, for example, to admit women to full standing in the ministry was defeated by a narrow margin. However, this immediate concentration on the business of reorganization has put the Methodist Church well along toward the completion of its structural changes. This should free it for the early consideration of more general and more vital contemporary issues.

### PRESBYTERIAN CHURCH IN THE UNITED STATES OF AMERICA

The 151st General Assembly of the Presbyterian Church in the United States of America convened in Cleveland in May, 1939. Its headline event was the election as Moderator of Dr. Sam Higginbottom, president of Allahabad College, India. This distinction was conferred upon Dr. Higginbottom because of his distinguished missionary service and his established place as an interdenominational leader in the field of agricultural missions. A layman, and incidentally not an American citizen, he afforded his Church unusually stimulating leadership during the year. No outstanding issue of basic conviction or system was before the General Assembly, but a proposal to rewrite the Shorter Catechism in "present-day English" was presented and referred for later report. The Assembly heard the welcome report that the Sesqui-centennial Fund of \$10,000,000 for the benefit of denominational colleges was more than half raised. It approved higher standards in theological education. It instructed that legal procedure be taken to safeguard the interests of the Church in the proposed merger of Auburn Theological

## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

Seminary with Union Seminary, an independent institution.

The report on social issues covered numerous topics but was characterized as not having many teeth in it. Sympathy for Jews in their persecution was voiced; a strong anti-war statement was adopted; the sale of munitions to Japan was condemned; and the principle of the separation of Church and State was vigorously reaffirmed. The Assembly went on record as opposing the mandatory inclusion either of ministers or of the Church's lay workers in social security legislation. Its chief tension occurred over a proposed amendment to the Confession of Faith, deleting the term "lawful war," which was widely interpreted as lending to war the sanction of the Church. The proposed deletion failed by a small margin in the vote of the presbyteries, a two-thirds majority being required. But agitation for a reopening of the issue has continued. Action on relations with other churches included an invitation to the United Presbyterian Church and Reformed Church in America to resume discussions of reunion. A plan of union with the Presbyterian Church of the United States (Southern) was adopted, proposing regional synods with final authority in all matters not delegated to a common General Assembly.

On the basis of a resolution declaring the purpose of the two bodies to achieve organic union, the committee for negotiations with the Protestant Episcopal Church was continued. A special Concordat between the two churches, making possible a common ministry under carefully defined conditions, was presented "as a basis of study and discussion between the two churches" but not proposed for action.

Distinguished Presbyterian leaders to die in 1939 included J. Ross Stevenson, former president of Princeton Theological Seminary, former moderator of the General Assembly, and distinguished leader of the ecumenical movement; Harold McAfee Robinson, general secretary of the Board of Christian Education; Herman L. Weber, a secretary of the General Council, president of the Interde-

nominal Association of Religious Statisticians (who formerly prepared this section of THE AMERICAN YEAR BOOK); and John W. Somerdike, for 44 years a secretary of the Board of National Missions.

The reports and conduct of the General Assembly evidenced the skilful handling of its multifarious details by the new Stated Clerk, Dr. William Barrow Pugh. The latest statistical report enumerated 89 fewer local churches, but more than 12,000 additional members gained during the year. A slight reduction in funds secured by the central receiving agencies was reported. The Assembly voted a basic missionary budget of \$8,000,000.

### **PRESBYTERIAN CHURCH IN THE UNITED STATES**

The General Assembly of this Church met in Montreat, N.C. in May. It elected Dr. Edward Mack of Union Theological Seminary, Richmond, as Moderator, and re-elected Rev. E. C. Scott as Stated Clerk. The revision of several items of the Westminster Confession and Catechism which had been confirmed by a constitutional majority of presbyteries was ratified. The revised version retains the doctrine of predestination, describes unregenerate man as "utterly indisposed, disabled, and made opposite unto all that is spiritually good and holy; inclined to all evil," but softens the phraseology condemning the position of the Roman Catholic Church. The method of calling and employing ministers was made more definite. It was reported that a \$3,000,000 annuity fund for the support of retired ministers was nearly completed.

The Assembly laid great stress on evangelism. In the field of social issues, it condemned "any diplomatic action that could be construed as a violation of separation of church and state." A considerable attack was made on the Committee on Social and Moral Welfare on the ground that it was inclined to inject controversial issues into the life of the Church. But the work of the Committee was sustained and the Committee continued. The Assembly re-



## PROTESTANT DENOMINATIONAL ACTIVITIES

ferred a report favoring union with the Presbyterian Church, U.S.A., for action by the presbyteries without recommendation. It declined to exchange fraternal delegates with the Bible Presbyterian Church, a group of seceders from the Presbyterian Church, U.S.A. The Assembly accepted membership in the World Council of Churches with the reservation of the right to withdraw should the constitution or confessional basis of that organization be changed.

Among the Church's losses by death during the year was Dr. D. Clay Lilly, a former Moderator. Additions to membership on confession of faith were about 5,000 above the previous year. The total expenditure for church support was \$11,220,000 as reported, a slight decline over 1938.

### PROTESTANT EPISCOPAL CHURCH

No meeting of the General Convention of the Protestant Episcopal Church occurred in 1939, though there was a session of the House of Bishops as well as important voluntary congresses representing different wings of the Church. The year was signalized by the celebration of the 150th anniversary of the adoption of the American Prayer Book. Intensive effort largely succeeded in overcoming an accumulated deficit in the missionary funds of the Church. Important processes of self-appraisal were initiated under a National Committee on Strategy and Policy, and independently in certain dioceses. The Third Province carried out a challenging study of church indebtedness. The Southern Province announced plans for a Negro bishop for communicants of that race in the nine southern states.

In the field of social issues the question of the inclusion of the Church's lay employees in the benefits of the social security act was favored by the National Council, which referred final judgment to the General Convention. The most hotly debated issue was that of war, the May meeting of the National Council failing to agree on any of the issues introduced. The

House of Bishops, however, approved the right of conscientious objectors to register as non-combatants. Further resolutions condemned war as unchristian but failed to advance any definite peace program, although the pastoral letter looked toward a federation of nations as a Christian type of world organization.

During the year an important voluntary Pacifist Fellowship was launched, under the leadership of Bishop Lawrence of Western Massachusetts. Under the previous resolution of the two bodies reciting their purpose to achieve organic unity, conversations relative to union with the Presbyterian Church, U.S.A. continued. Pointed opposition arose to the proposed Concordat providing for a common ministry under prescribed conditions, and culminated in an exchange of open letters between Bishop W. T. Manning of New York and Bishop Edward L. Parsons of California in behalf of the Commission. As an alternative, a "dual membership plan" was proposed by Bishop F. E. Wilson, which involved ministers and members of each Church becoming fully qualified in the other under its present requirements.

Distinguished Episcopal leaders who died during the year included Dean Milo H. Gates of the Cathedral of St. John the Divine, New York City, and Rev. L. E. Sutherland, for 20 years superintendent of the New York City Missionary Society. An increase of 26,630 communicants over 1938 was officially announced, together with additional contributions for all purposes of about \$500,000.

### OTHER DENOMINATIONS

Noteworthy activities by other denominations include a conference in Philadelphia of representatives of the three leading denominations of Negro Methodists to project a plan of unification; the vote of the Reformed Episcopal church (while tabling the proposal to unite with the World Council of Churches) to continue negotiations for reunion with the Protestant Episcopal Church; formal action by the General Assembly of the United Presbyterian



## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

Church exonerating the Federal Council of Churches from charges of radicalism, and voting to continue in its membership; a vigorous affirmation by the same body as to the plight of the church-related colleges in competition with cheaper secular education; the prophecy of the President of the American Unitarian Association, in his annual address, of the emergence of a united liberal church, and the transfer of the *Christian Register* (Unitarian) after 118 years as an independent religious journal, to the American Unitarian Association as an official organ.

Numerous smaller denominations of the more sectarian type have reiterated their historic opposition to war, have called upon the Government to grant exemption to military service by their conscientious objectors, and have stressed anew the separation of Church and State. These actions have generally been accompanied by an expression of willingness to undertake non-combatant service in war.

The universally trusted Society of Friends has continued its extraordinarily influential emergency work in recently belligerent countries. The Church of the Mennonites has introduced a notable innovation in starting a Sunday School quarterly in English to meet the demand of its

younger generation. The most imminent case of the actual merger of denominations is that of the United Brethren in Christ and the Evangelical Church, whose commissions on church unity announced in November the terms of the proposed basis of union which must be acted upon by the next quadrennial sessions of the two bodies, and then transmitted for ratification to the local congregations in the United Brethren Church and to the Annual Conferences in the Evangelical Church. The ecclesiastical systems of both of these denominations are essentially Methodist.

The year 1939 saw the carrying out of the final stages of the uniting of the Evangelical and Reformed in the United States churches, and will allow the new constitution to become fully operative in 1940. The Women's Societies of the two churches consummated their merger at a meeting in Cleveland in May. The Commission on the new hymnal made public its contents in outline. Certain difficulties with respect to the placement of ministers under the new scheme of the united churches were experienced. Concern was also felt over the debts of the Church's educational and philanthropic institutions. The organization of the new joint synods as the subordinate units of the merged churches was completed in the spring.

## INTERDENOMINATIONAL ACTIVITIES

BY PRESTON KING SHELDON

EDITOR AND WRITER

### RELIGION AND THE WAR IN EUROPE

Though the world was thrown into further unrest in 1939 by the European war, there existed a new degree of unity among Protestants and among spiritual leaders of Christians and Jews. The year 1938 had closed with the appearance in the press the day before Christmas of a remarkable manifesto against religious persecution and political totalitarianism signed by Archbishop Edward Mooney of Detroit, chairman of the National

Catholic Welfare Conference; Henry St. George Tucker, Presiding Bishop of the Protestant Episcopal Church; the president of the Southern Baptist Convention; the moderator of the Southern Presbyterian Church, and Dr. George A. Buttrick, president of the Federal Council of the Churches of Christ in America. This statement followed a pronouncement made by the Council at its biennial meeting in December, 1938 at Buffalo, appealing to all its affiliates to oppose anti-Semitism and aid German refugees.

## INTERDENOMINATIONAL ACTIVITIES

Protestant church leaders everywhere were moved with forebodings of imminent peril to religion and were so moved by the seriousness of the war when it started that deliberations planned to promote interdenominational progress began to be postponed. Among such postponements was the 1940 convention of the World's Sunday School Association to have been held at Durban, South Africa. Denominational meetings of international scope were also called off. Even the annual Good Will Congress of the World Alliance for International Friendship through the Churches in cooperation with the Church Peace Union, which was to have been held in November, 1939 in Milwaukee, was abandoned.

But a new form of approach to the problem of establishing good will was dramatized publicly in November, 1939, when the first annual award of the *Churchman*, a Protestant Episcopal publication, was formally presented to Mrs. Franklin Delano Roosevelt at a dinner at the Hotel Astor in New York City. This tribute was prompted by recognition of her fearless mingling with groups regarded by opponents of the New Deal as subversive and her evident faith in the claims of average Americans, particularly the younger ones, to a right to be heard on public questions of the day.

The year saw a serious concern within many denominations for the rights of conscientious objectors to war. Outspoken positions were taken to preserve the right of communicants to refuse to fight. New evidences of a desire for tolerance were found in these and other pronouncements. They were also found in concrete programs of education conducted by the National Council of the Young Men's Christian Association and in other ways.

Meanwhile, the World Alliance for International Friendship through the Churches held its annual meeting in New York on Nov. 10, 1939 and adopted a ten-point program as a goal for study and action in the churches of the United States. "Despite the present spread of war, we

hold to our faith in the possibility of a new and better world order," the statement said. It was drawn up by the executive committee and charged that "the failure of the United States to assume its due share of responsibility in international affairs has been a contributing cause of the breakdown of law and order."

### THE PACIFIST MOVEMENT

The program urged upon the churches was as follows:

1. Strengthen in every practicable way the efforts of the Government to keep the United States out of war, in order that it may better serve the cause of democracy and humanity.
2. Support all efforts of the Government to seek a peace based on justice for all nations, and urge the Government and people to make all necessary sacrifices to that end.
3. Promote measures calculated to prevent American economic participation in aggression.
4. Organize public opinion against the exploitation of war for private gain and in support of legislation to curb such profiteering.
5. Combat all forms of propaganda that tend to create warped judgments, unjust animosities and intolerant attitudes.
6. Help to protect democratic ideals, further their realization, and safeguard the civil liberties guaranteed to all our citizens.
7. Work for adequate peace machinery as a necessary prerequisite to international order and security and stress the duty of the United States to cooperate in making such machinery effective.
8. Continue and strengthen the work of the churches to further international goodwill and to maintain their universal fellowship.
9. Relieve the suffering of the victims of oppression and aggression through immediate and continuous humanitarian aid.
10. Encourage and strengthen the faith of the people in the continued possibilities of a peaceful world, and urge upon them a deeper dedication to the struggle and sacrifice necessary to that end.

## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

The Fellowship of Reconciliation issued a call at the same time, to the Church, to reaffirm "its repeated declarations that war is sin." A committee of 100 sponsors was also formed by the fellowship for a national series of Christian pacifist conferences. Dr. Harry Emerson Fosdick of Riverside Church, New York City, was made chairman. The pacifist movement was gaining ground all through the United States in 1939, being largely in evidence in a wide effort among many church leaders, particularly the younger ones, to influence Congress to maintain rather than lift the embargo on arms and in fact to extend its provisions. This effort waged in support of the maintenance of our neutrality with reference to the European war, was in vain, so far as the revision of the neutrality act was concerned. But the pacifist movement began to take hold among denominational leaders who undertook to form denominational pacifist alliances in response to urgings emanating from the Fellowship of Reconciliation. One of the first denominations in which a group of pacifists was thus organized was the Protestant Episcopal Church, among whose members such an alliance was launched late in 1939 with Bishop W. Appleton Lawrence of Western Massachusetts as its head.

One of the significant examples of anti-war attitudes, which included evidence of the rise of pacifism, came from a poll of 182 Roman Catholic universities and colleges by *America*, a Jesuit weekly. The publishers sent out about 115,000 ballots bearing questions on war. A total of 51,225 answers came back to a query as to what stand would be taken were the United States to declare war under existing conditions, of which more than one-third were from conscientious objectors. This question was answered by men as to their own feelings and by women as to how they felt about brothers and friends going to war. The remaining two-thirds of the answers were divided into responses from 21,092 who favored waiting for conscription and 11,969 who favored voluntary enlist-

ments. Out of 45,678 replies to another question, 97 per cent opposed sending United States troops abroad and 79 per cent out of 45,493 thought no stable peace could come from American intervention in the European war. A national referendum on any proposal to enter a foreign war was favored by 75 per cent of those replying on this question. The editors concluded from the poll that Roman Catholic "collegians are against war and most of them choose not to fight." It was estimated that 90 per cent of the institutions approached had cooperated in the poll. The results were published on Armistice Day.

Shortly after the war started in Europe, the Federal Council of the Churches of Christ in America sent to all its affiliated churches an appeal from its Department of International Justice and Goodwill to face their "share in the common guilt" and "to keep and strengthen their world-wide bonds." The churches were called upon to "defend the liberties of press, platform and pulpit which war everywhere harshly threatens" and to "pronounce war an evil thing alien from the mind of Christ." They were urged "now to seek peace, not for safety's sake or for profit's sake but for Christ's sake and a kindlier world."

On Oct. 9, 1939, the executive committee of the Council wrote President Roosevelt commending him for his expressed desire to keep the United States out of war and assuring him of the Council's support. Again in December, officials of the Council wrote the President appealing to him to deny to Russia all munitions of war and to take "such diplomatic measures as will emphatically express our moral protest."

### U. S. AMBASSADOR TO THE VATICAN

In December President Roosevelt announced his appointment as a personal representative to Pope Pius XII of Myron C. Taylor, an Episcopalian, with rank of ambassador but without portfolio, in a move for world peace. The President also urged all churches to exert their influence behind the



move and wrote to Pope Pius; the Rev. Dr. George A. Buttrick, president of the Federal Council of the Churches of Christ in America, and to Dr. Cyrus Adler, president of the Jewish Theological Seminary of America, inviting their cooperation. The appointment of Mr. Taylor was received cordially at the Vatican, and the three religious leaders responded immediately expressing their desire to cooperate.

The day after Christmas it was announced in Washington that but few critical messages had been received there on the move by President Roosevelt and that these were likely the result of misunderstanding. However, officials of the Northern and Southern Baptist Conventions drafted a letter of disapproval of the appointment of a representative to the Vatican, which was delivered to the President at the White House on Dec. 29. The letter followed the traditional attitude of Baptists against any alliances between Church and State. It was intended as an approval of the President's program for peace, although it warned against such an alliance as a means of effecting peace. This criticism was heightened in interest by the effects of a visit from Pope Pius XII to King Victor Emmanuel of Italy on Dec. 28, which was taken as a sign of a desire to perpetuate the reconciliation starting in 1929 between the Italian Government and the Vatican. Meanwhile Dr. Buttrick and Dr. Adler had visited President Roosevelt on Dec. 27, at his invitation to start a series of conferences. Warning of an impending opposition of Baptists generally to the papal tie-up was issued the same day in Atlanta, Ga. by Dr. W. O. Lewis, general secretary of the Baptist World Alliance, which was published in a special dispatch to *The New York Times*.

## SOCIAL AND ECONOMIC APPEALS

In late October, 1939, the National Federation of Men's Bible Classes, meeting in New York City, took cognizance of the rising threats of atheism and militarism, and drew up a resolution "to the persecuted re-

ligious groups wherever they may be of our deepest heartfelt sympathy." They voted to stand "ready to defend our Lord, his principles and his people." This resolution was received from the New York State Federation of Men's Bible Classes which met the previous day and had gone so far as to add in the matter of defense, the words, "whether by word or force." But when adopted by the national body the latter phrase was omitted without comment. Similar feelings were expressed by various religious groups throughout the year. Another typical manifestation of tolerance was issued to the churches from the tenth annual session of the Church Conference of Social Work, which met in Buffalo June 18 to 23. The program was arranged by Dr. L. Foster Wood, its secretary. The chief themes were "The Church's Approach to the Social Needs of the Community" and "Principles of Protestant Social Work." The message to the churches expressed sympathy with "the unemployed, the handicapped, the victims of interclass, international and interracial maladjustments" and "with the minority groups whose liberties are violated, with refugees, and with all those upon whom the burden of economic maladjustment falls most heavily." A particular point was made of "The Hebrew-Christian heritage with which the rise of modern democracy has been historically associated." The statement declared: "We must establish and expand democracy."

## THE CHURCH AND INTERNATIONAL AFFAIRS

Appeals prior to 1939 for an international economic conference, made by Christian and other religious leaders, had made little if any headway among national governments. But these leaders continued through the summer of 1939 to hold committee meetings. One of these was held in July at Geneva, Switzerland, attended by 35 men and women who held informal sessions for five days. They came together at the call of the Provisional Committee of the proposed World Council of Churches set up in



## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

Utrecht, Netherlands, in May, 1938. They came from 11 countries in Europe, Eastern Asia and North America. Among the laity were men who had been officially connected with the Paris Peace Conference, the Hague Peace Conferences, the Hague Court, the Reparations Commission, the Mandates Commission, the Lima Conference, and with government commissions on economics, foreign trade and tariff boards and the International Red Cross. Among them were experts in international law. Among the clergy were leaders in the ecumenical movement.

This informal body prepared a memorandum dealing with church activities designed to end war and giving a summary of tasks confronted by them under actual war conditions. A statement was also drawn up to accompany the memorandum. Both were sent to high government officials responsible for handling international problems and to churches throughout the world. The letter said, in part: "In transmitting this memorandum, we act in view of the commission we have received to carry forward the work of the Universal Christian Council for Life and Work. It is, therefore, based on the resolutions of the Oxford Conference." (The latter was held in the summer of 1937. See *THE AMERICAN YEAR BOOK*, 1937, pp. 613-15.)

The memorandum was drawn up "to define and clarify and to apply to the present situation" the resolutions stated, but not to "be regarded as an official manifesto from any ecumenical body." It was divided into three sections, setting forth, first, "the principles on which Christian action in the realm of political and international life may be based"; second, "an attempt to define the basal moral principles derived from Christianity which should govern the life of States and to apply them to concrete needs," with a discussion of "some causes of the present disorder"; and third, to deal with the tasks of the churches.

In introducing the factors listed as causes of the international crisis, the memorandum stated: "It is due partly to long standing factors which were

in operation before 1914, and partly to factors that have appeared since the war and have reached a climax." A divided opinion was noted "as to the relative importance to be attached to these two sets of causes and to the separate elements in each." The list was set forth, therefore, to "indicate some of the more important," as follows: great social changes caused by the industrial revolution, creating new economic relationships between nations and consequent political mal-adjustments; the movement for national independence on the part of many of the peoples of Europe and the Near East; the new claims of Germany and Italy to full equality with the other chief western nations in a system of Great Powers of which they had become members later than their rivals, with a consequent disadvantage in competition; and the character of the Great Power system itself.

Among more recent causes might be mentioned: the World War itself, its results, and the divergence of judgments as to its origins; the manner and spirit in which the Peace Treaties were drawn up; the failure adequately to adjust the provision of the treaties, while yet goodwill and the spirit of international cooperation would thereby have been improved; the Russian Revolution and the reactions caused by it in many countries; the emergence of Japan with her needs and ambitions, in the face of western powers unwilling to concede racial equality or economic opportunity, and the concurrent growth of national unity in China; the international economic depression that visited most countries in recent years, attended by wide-spread idleness and misery, which in their turn gave rise to a new type of national leadership; the prevention of the needed expansion of international commerce by the growth of planned economies, and the fear of any return to a system of mutual international dependence in trade would cause national danger in time of war; the resort to political expansion, and the sense of international disorder and distrust created by the actions of Germany, Italy,

## INTERDENOMINATIONAL ACTIVITIES

and Japan, comparable with the distrust created in Germany by the provisions of the Peace Treaty; the rise of political and national ideologies, consciously at variance with one another; and the tendency of the press and other media of publicity, in face of the possibility of war, to excite nationalistic sentiment and to disparage and distort the position of other nations and their leaders.

The Provisional Committee for the proposed World Council of Churches became under war conditions an international organization the like of which the world did not know in 1914. Though only in process of formation 53 church bodies had officially endorsed the move in 1939 and it had received active support from many other communions in which official action had not yet been taken. A general secretariat had been set up in Geneva with branch offices in London, Oxford, and New York working on a program under the Continuation Committee of the Faith and Order Conference which met in Edinburgh in 1937 following the Oxford conference on life and work.

### WORLD CONFERENCE OF CHRISTIAN YOUTH

The first World Conference of Christian Youth, held July 24 to August 2, 1939, in Amsterdam, brought out more than 1,500 young people representing 71 national groups at the roll call. At least two other groups were noted, representing church bodies without knowledge of their governments, which could not respond to the roll call. This gathering exceeded in attendance any of the series of ecumenical conferences of the past two years. An estimate disclosed that 58 per cent were under 26 years of age. The delegates from the United States numbered 325; Europe, 500; Asia, 115; Australia, 45; Africa, 25; China, 30; Japan, 25. Each delegate was chosen by a recognized Christian body back home.

The Conference held discussions in sectional groups and as a body adopted a statement broadcast later in printed form in which the delegates pledged themselves and "those whom

we represent to work for peace and justice in all social and international relationships." It said: "the nations and peoples of the world are drifting apart, the churches are coming together." And further: "The World needs a united Church. We must be one that the world may believe. The World will not wait until we argue, neither will God have us ask Him to achieve by miracle what we are unwilling to work for ourselves."

The Conference was held under the auspices of the World Alliance for International Friendship Through the Churches, Universal Christian Council for Life and Work (through the Provisional World Council Committee), World's Alliance of Young Men's Christian Associations, World's Young Women's Christian Association, and World's Student Christian Federation. Other world bodies collaborating were the International Missionary Council, World Conference on Faith and Order, World's Sunday School Association, and the International Society of Christian Endeavor.

The second annual meeting of the North American Provisional Committee of the proposed World Council of Churches, composed of delegates from Canada and the United States, met in November, 1939 at Toronto to review achievements thus far. R. H. Edwin Espy, secretary of the Joint Youth Commission of the World Council and the already existing World Alliance for International Friendship Through the Churches, was assigned to work in North America in a follow-up program with the work of the Youth World Conference in Amsterdam as a base. To aid in promoting the ecumenical point of view the suggestion was made that new editions of the hymn books of all denominations contain an affirmation on Unity adopted at Edinburgh in 1937.

### INTER-COUNCIL FIELD DEPARTMENT

The need of "a channel through which the needs, experiences and impulses of the local community, the county, the city and the state may be made known to the national denomi-

## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

national and interdenominational agencies" was a factor that brought into being in October in the United States an Inter-Council Field Department, coordinating the activities of eight interdenominational groups. These were the National Committee of Church Women, the two Home Missions Councils, Federal Council of the Churches of Christ in America, International Council of Religious Education, Foreign Missions Conference of North America, Missionary Education Movement, and the United Stewardship Council. Dr. Herman N. Morse of New York was elected chairman of a supervisory committee; Miss Mary C. Smith of Minneapolis, vice-chairman; and the Rev. John B. Ketcham of Chicago, recording secretary. The staff of the new field department was made up of the field

staffs of the cooperating agencies and as the basis of organization of the Staff Council. Dr. J. Quinter Miller of Hartford, Conn. was made chairman.

### FINANCIAL STATISTICS

The United Stewardship Council in its statistical report for 1939 showed an increase of only ten cents in the average per capita financial contributions in 22 Protestant denominations in the United States, taking their combined receipts together, for 1938 and 1939. The 1938 average had been \$13.47 and in 1939 it was \$13.57. The average for three Protestant bodies in Canada in 1938 was \$17.66 and in 1939 was \$17.94, or an increase of \$.28 per capita. The general average of the 25 groups in both countries in 1938 was \$13.62 and in 1939 was

### UNITED STEWARDSHIP COUNCIL STATISTICS, 1939

Religious Body	Per Capita Gifts			
	Budget Benevolences	Denomina- tional Benevolences	Congrega- tional Expenses	All Purposes
1. Baptist, Northern.....	(10) \$1.65	(19) \$1.72	(12) \$12.21	(16) \$13.93
2. Baptist, Southern.....	(21) 1.21	(21) 1.21	(21) 6.18	(22) 7.39
3. Baptist, Seventh Day.....	(3) 3.85	(4) 3.85	(15) 10.56	(15) 14.21
4. Brethren, Church of.....	(12) 1.32	(14) 2.33	(19) 8.25	(19) 11.91
5. Brethren in Christ, United...	(14) 1.19	(17) 2.07	(16) 9.88	(18) 11.93
6. Congregational and Christian..	(11) 1.40	(15) 2.24	(7) 15.29	(8) 18.26
7. Disciples of Christ.....	(15) .87	(20) 1.39	(22) 5.91	(21) 7.93
8. Episcopal Protestant.....	(6) 2.44	(10) 2.93	(2) 19.94	(3) 22.88
9. Evangelical Church.....	(16) .19	(22) .76	(18) 8.45	(2) 24.28
10. Evangelical and Reformed.....	(13) 1.27	(18) 1.94	(10) 12.75	(12) 14.82
11. Lutheran Church, United.....	.....	(13) 2.39	(11) 12.23	(13) 14.62
12. Lutheran Conf., American.....	.....	(7) 3.21	(14) 11.01	(14) 14.22
13. Lutheran Conf., Synodical.....	.....	(11) 2.91	(13) 11.99	(11) 14.90
14. Lutheran Ev. Augustana.....	.....	(9) 2.98	(9) 13.43	(10) 16.41
15. Methodist Episcopal.....	(9) 1.82	(16) 2.20	(8) 14.50	(9) 16.70
16. Methodist Episcopal, South...	(8) 1.85	(12) 2.56	(20) 7.47	(20) 10.04
17. Moravian, Northern.....	.....	(8) 3.04	(17) 8.92	(17) 11.96
18. Nazarene, Church of.....	(7) 1.90	(3) 4.37	(1) 26.65	(1) 31.02
19. Presbyterian, United.....	(1) 5.11	(1) 5.93	(5) 16.16	(4) 22.09
20. Presbyterian, U. S. (S.).....	(2) 4.88	(2) 5.42	(6) 15.43	(6) 20.85
21. Presbyterian, U.S.A. (N.).....	(5) 2.53	(6) 3.44	(4) 17.20	(7) 20.64
22. Reformed in America.....	(4) 3.36	(5) 3.63	(3) 19.15	(5) 21.78
Average, United States, 1939....	\$1.91	\$2.36	\$11.49	\$13.57
Average, United States, 1938....	\$1.92	\$2.19	\$11.28	\$13.47
23. Baptist, Ontario and Quebec..	(1) \$3.61	(1) \$3.67	(3) \$13.77	(2) \$17.44
24. Presbyterian, Canada.....	(3) 2.70	(3) 3.19	(2) 14.00	(3) 17.20
25. United Church of Canada.....	(2) 3.33	(2) 3.49	(1) 14.40	(1) 18.18
Average Canada, 1939.....	\$3.24	\$3.44	\$14.28	\$17.94
Average Canada, 1938.....	\$3.25	\$3.52	\$14.14	\$17.66
GENERAL AVERAGE, 1939....	\$1.97	\$2.34	\$11.09	\$14.10
GENERAL AVERAGE, 1938....	\$1.99	\$2.23	\$11.38	\$13.62

# INTERDENOMINATIONAL ACTIVITIES

Religious Body	Total Gifts				Membership Excluding Infants	For Year Ending
	Benevolence Budget	Denominational Benevolence	Congregational Expenses	All Purposes		
1. Baptist, Northern.....	\$ 2,492,320	\$ 2,597,803	\$ 18,378,351	\$ 20,976,154	1,504,942	Apr. 30, 1939
2. Baptist, Southern.....	26,340	5,798,529	29,466,881	35,265,340	4,770,185	Dec. 31, 1938
3. Baptist, Seventh Day.....	225,243	26,340	70,901	144,434	6,839	June 30, 1939
4. Brethren, Church of.....	497,958	395,000	1,400,000	2,020,243	169,571	Feb. 28, 1939
5. Brethren in Christ, United.....	1,464,635	865,772	4,109,589	4,975,361	416,737	Dec. 31, 1938
6. Congregational and Christian.....	1,429,898	2,341,463	15,955,213	19,056,986	1,043,276	Dec. 31, 1938
7. Disciples of Christ.....	3,373,613	2,274,089	10,644,057	12,918,146	1,630,393	June 30, 1938
8. Episcopal, Protestant.....	47,663	4,074,731	27,322,707	31,397,438	1,379,743	Dec. 31, 1938
9. Evangelical Church.....	841,766	185,753	2,065,354	4,946,304	242,128	Aug. 31, 1939
10. Evangelical and Reformed.....	.....	1,280,911	8,414,026	9,773,646	659,659	Dec. 31, 1938
11. Lutheran Church, United.....	.....	2,756,290	14,100,616	16,856,906	1,153,274	Dec. 31, 1938
12. Lutheran Conf., American.....	.....	3,398,512	11,667,797	15,066,309	1,059,714	Dec. 31, 1938
13. Lutheran Conf., Synodical.....	.....	3,117,023	12,837,078	15,978,101	1,072,221	Dec. 31, 1938
14. Lutheran Ev. Augustana.....	.....	763,093	3,442,410	4,205,504	256,276	Dec. 31, 1938
15. Methodist Episcopal.....	6,740,410	8,121,863	53,580,780	61,702,643	3,715,267	May 31, 1938
16. Methodist Episcopal, South.....	5,367,266	7,616,137	21,464,985	29,071,121	2,859,090	Dec. 31, 1938
17. Moravian, Northern.....	.....	74,119	217,022	291,141	24,329	Dec. 31, 1938
18. Nazarene, Church of.....	280,736	668,340	4,069,045	4,737,385	152,673	Dec. 31, 1938
19. Presbyterian, United.....	940,383	1,091,353	2,972,801	4,064,154	183,889	Mar. 31, 1939
20. Presbyterian, U.S. (S.).....	2,500,794	2,773,717	7,891,781	10,665,498	511,364	Mar. 31, 1939
21. Presbyterian, U.S.A. (N.).....	4,895,753	6,638,956	33,205,439	39,884,395	1,929,671	Mar. 31, 1939
22. Reformed in America.....	540,853	584,165	3,112,390	3,804,194	160,902	Apr. 30, 1939
Total, United States, 1939.....	\$31,665,631	\$57,443,959	\$286,589,153	\$338,001,403	24,902,143	
Total, United States, 1938.....	\$31,391,253	\$53,092,331	\$273,911,005	\$327,003,336	24,274,245	
23. Baptist, Ontario and Quebec.....	\$ 205,246	\$ 208,147	\$ 781,199	\$ 989,346	56,700	Apr. 30, 1939
24. Presbyterian, Canada.....	471,184	558,062	2,443,316	3,091,378	174,490	Jan. 31, 1939
25. United Church of Canada.....	2,152,653	2,242,343	9,247,191	11,671,147	641,756	Dec. 31, 1938
Total Canada, 1939.....	\$ 2,829,083	\$ 3,008,552	\$ 12,471,706	\$ 15,661,871	872,946	
Total Canada, 1938.....	\$ 2,821,770	\$ 3,059,544	\$ 12,291,480	\$ 15,351,024	869,071	
GRAND TOTAL, 1939.....	\$34,494,714	\$60,452,511	\$299,060,859	\$353,663,274	25,775,089	
GRAND TOTAL, 1938.....	\$34,213,023	\$56,151,875	\$286,202,485	\$342,354,360	25,143,316	



## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

\$14.10, an increase of \$.48 per capita. The statement carried data obtained through national officials of the various denominations represented in the report and covered gifts of living donors only.

### FEDERAL COUNCIL OF CHURCHES

An increase in the responsibilities of the general secretary of the Federal Council of Churches necessitated the naming of an associate, and in November, 1939, the Rev. Roswell P. Barnes, secretary of the committee on international relations of the Foreign Missions Conference of North America, was chosen to aid Dr. Samuel McCrea Cavert. He took over his duties Jan. 1, 1940.

The Council continued its regular activities throughout the year, including periodic committee meetings and regional conferences on problems of religion and mental health, marriage and the home, rural life, cooperatives, worship, missionary work and evangelism. The latter activity was carried on extensively in universities. The Council also joined with the Foreign Missions Conference of North America in forming as an emergency agency, the Committee on Foreign Relief Appeals in the Churches, to coordinate relief activities among refugees from oppression in Europe. But perhaps the most outstanding move in aid of anyone suffering from setbacks because of world strife, was that of a special committee headed by American church leaders to start a fund of \$30,000 to be raised the next three years to aid Dr. Toyohiko Kagawa, Japanese Christian preacher and labor leader, in a program of evangelism instituted by the National Christian Council of Japan. (See THE AMERICAN YEAR BOOK, 1937, 1938.)

The Council sent out 52,000 copies of its 1939 Labor Sunday message. It was published on the sermon pages by many newspapers. The message picked up a challenge to the churches issued from the world conference of churches in Madras, India, where Dr. Kagawa had spoken in December, 1938, calling for a new effort to achieve a spirit of brotherhood. It

deplored the strife within the ranks of the American labor movement. It emphasized in particular the need of better understanding between farmers and industrial workers.

### WORLD CONFERENCE OF CHURCHES AT MADRAS

A series of post Madras conferences were held in 1939 by the Foreign Missions Conference of North America under the auspices of local councils of churches to interpret the pronouncements made by the Madras assembly. There were two itineraries: Washington, D.C., Philadelphia, Baltimore, Wilmington, Charlotte, Atlanta, Nashville, Memphis, Dallas, Phoenix, Los Angeles, San Francisco, Portland, Seattle and Western Canada; and St. John's, N.B., Boston, New York, Madison, N.J., Eastern Canada, Detroit, Springfield, Ill., Chicago, Grand Rapids, St. Louis, Des Moines, Lincoln, Denver, Kansas City, Champaign, Ill., Indianapolis, Cleveland, Buffalo, Pittsburgh and Richmond, Va.

Among the findings at Madras was an emphatic pronouncement against the nationalistic tendencies of the day, of which three types were noted: the "self-expressive," the "self-satisfied" and the "self-assertive." These were noted along with Communism and "scientific scepticism" as "lesser loyalties" or, threats to the Christian faith.

The Madras findings on these, discussed nationality as "not only a divine gift but also a power corrupted by sin and used as an instrument of sin." Continuing, the statement said: "We recognize that in the midst of the disintegration of the basic structures of life, a strong assertion of national solidarity seems often to be the only alternative to social chaos. Yet against the claim to supreme and ultimate authority over the thoughts and lives of men which aggressive and self-assertive nationalism raises today, the Church must be adamant."

On the subject of Communism, the following was recorded at Madras: "Communism as an economic program for social reconstruction should be distinguished from Communism as a philosophy. In its concern for the

## INTERDENOMINATIONAL ACTIVITIES

underprivileged, in its demand for a more equitable distribution of wealth and opportunity, in its insistence upon racial equality, it has points of contact with the social message of Christianity. Its capacity for eliciting sacrifice calls Christians to penitence for their lethargy, and its emergence is a rebuke to the Church for entanglement in the evils of an unjust society and acquiescence in the status quo.

"Yet Marxist Communism in its orthodox philosophy, stands clearly opposed to Christianity. It is atheistic in its conception of ultimate reality and materialistic in its view of man and his destiny. Its utopian philosophy of history lacks the essential Christian notes of divine judgment, divine governance and eternal victory. Its revolutionary strategy involves the disregard of the sacredness of personality which is fundamental in Christianity."

On the subject of Christian Education, the Madras findings warned against permitting religion to come under the influence or control of the State, while accepting standards imposed by the State on all education however rightly.

The duty of the Church toward economic conditions was held to be to help improve them as "an essential part of the ministry of the Church." This would be "not merely a method for increasing the resources of the church organization," it was maintained. "No ground should be provided for the charge that the Church cares for the economic condition of its members only for the purpose of exacting contributions from them. In the spirit of the Master, Christians must try to lift their fellow men out of unbearable conditions."

The conference in Madras was held by the International Missionary Council, and brought out 471 persons from 69 countries or territories. Its findings filled more than 150 pages in a book published for general circulation.

### HOME MISSIONS COUNCIL

The Home Missions Council held its 31st annual meeting in Baltimore

in January, 1939 and reported a balanced budget. The executive secretary in his annual report emphasized a need for greater interdenominational planning to avoid overlapping of work in the establishment of new churches and urged that mission boards experiment with such projects as the Delta Farms Cooperative in Hillhouse, Miss. set up by Sherwood Eddy with the aid of funds received from free-will offerings through the churches. A conference lasting two days followed the business sessions to present up-to-date data on social and religious needs in the home mission field. Dr. Homer McMillan, executive secretary of the executive committee of Home Missions of the Presbyterian Church in the United States, was chosen president of the Council, succeeding Dr. E. D. Kohlstedt. Dr. George Pitt Beers, executive secretary of the American Baptist Home Mission Society, became vice-president. James C. Gripp, of the Board of National Missions of the Presbyterian Church in the U.S.A., became treasurer.

### INSTITUTE OF HUMAN RELATIONS

The annual Institute of Human Relations at Williams College, Williamstown, Mass., conducted Aug. 27 to Sept. 1 by the National Conference of Christians and Jews, brought out 1,200 Protestants, Roman Catholics and Jews. The registrations were 63 per cent Christians and 37 per cent Jews. Of the former, 78 per cent were Protestants and 22 per cent Catholics. One delegate was from the Mormon colony in Salt Lake City. Representatives attended from the press, stage and screen, radio, organized labor, agriculture, industry, and business. Their deliberations were broadcast over NBC six times. The sessions were preceded by a three-day meeting of the general staff and field workers and a three-day leadership training conference. The general theme of the Institute was "Citizenship and Religion." There was a daily forum on propaganda held as a continuation, to some extent, of the 1937 Institute which

## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

had as its general theme "Public Opinion in a Democracy." The leaders in this section in 1939 were: Franklin Dunham of NBC; Prof. Harold D. Lasswell of the William Alanson White Psychiatric Foundation, Washington, D.C.; Dr. Frank Kingdon, president of Newark University, Newark, N.J.; Freda Kirchwey, editor of *The Nation*; Arthur T. Robb, editor of *Editor and Publisher*; Prof. Richard Lewis, Glendale Junior College, Glendale, Calif.; Howard Dietz of Metro-Goldwyn-Mayer; and Roger W. Straus, co-chairman of the National Conference of Christians and Jews.

The discussions on propaganda were looked upon as of "special significance" in view of unsettled world conditions and the rise of conflicting views in published form. Among the outstanding types of propaganda upon which light was thrown were the advocating in the United States by fascist-minded groups of violence against races and religions and the overthrowing of democratic government by this and by militant left-wing groups held to be working toward the destruction of democracy and the raising of a dictatorship of the proletariat. The issue was raised as to the propriety of trying to suppress anti-democratic propaganda and was settled so far as the members of the forum were concerned by a general agreement that the "free-trade" principle ought to be maintained in the field of propaganda. It was affirmed that a democracy can not ban propaganda of any "ism" and remain a democracy, since such limitation itself would be undemocratic.

When the group reached the problem of propaganda by radio it was unable to escape the activities of the Rev. Charles E. Coughlin, whose broadcasts had been barred in 1938 from WMCA and two other radio stations, when he raised the issue of Communism in such a manner as to be looked upon as himself favoring fascism. His speeches were broadcast over certain stations and published by many Roman Catholic papers, however, and found wide distribution through the medium of *Social Justice*,

a weekly periodical which he himself had founded in 1936 and the sale of which, particularly on the streets of New York, brought its street vendors into difficulties with the police, along with vendors of Communist pamphlets who competed with them in the immediate vicinity.

Mr. Dunham explained the attitude of the radio networks toward religious broadcasts on controversial issues, saying that no religious group is permitted to attack another religious group; also, that religious groups are asked in their broadcasts to emphasize their common faith rather than their differences and to have their speakers chosen from their respective leaders on the basis of their ability to present views known to be endorsed by the groups themselves. In the field of public affairs, he said, as many points of view as possible would be given time for expression, but at least two must be given such time on the radio.

A Roman Catholic priest, the Rev. Gregory Feige, of Newton, N.J., speaking on the issues involved in the Father Coughlin controversy, stated that Father Coughlin had had the backing of the Archbishop of Detroit because he began his public activities in an attempt to bring Christian principles into our political system. The issues, it was explained, arose when Father Coughlin began to use labels without definition such as "the atheistic communist Jew" and "the atheistic communist Gentile." The pertinent point was made that two cardinals and an archbishop had reproved Father Coughlin "some years ago" but that to attempt to silence him would be contrary to the very principles of democracy. It was also pointed out that Roman Catholic church officials of high standing had repeatedly made plain that Father Coughlin was speaking as an individual.

Meanwhile a group of individuals calling themselves "The Christian Front" had arisen, whose members claimed they had derived their inspiration from Father Coughlin. This group was condemned by the Brooklyn Church and Mission Federation



## THE ROMAN CATHOLIC CHURCH

in November, 1939, and Protestants were warned against placing faith in its statements which were held to spread racial and religious prejudice.

## THE ROMAN CATHOLIC CHURCH

By PAUL MARTIN-DILLON

DIRECTOR, BUREAU OF INFORMATION,  
NATIONAL CATHOLIC WELFARE CONFERENCE

### DEATH OF PIUS XI

The two most outstanding Catholic events of the year followed in close succession. These were the death of Pius XI Feb. 10 and the election of Cardinal Eugene Pacelli to succeed him on March 2. For weeks preceding the death of Pope Pius XI, Europe was seething with turmoil, and peace was a preoccupation of the Pontiff's last days. He deplored the inhumanity which men were displaying towards one another in various parts of the world. His passing was mourned sincerely and deeply in every land, and from 69 governments messages of condolence were received. Hundreds of thousands attended his funeral in Rome.

### CATHOLIC POPULATION OF UNITED STATES

The Catholic population of the United States, Alaska, and the Hawaiian Islands was 21,406,507 in 1939, or a gain of 239,827 over 1938, according to the *Official Catholic Directory*. The total number of clergy was given as 33,540; the number of churches as 18,428. Converts received numbered 65,943.

The Hierarchy in the United States received from Pope Pius XII an Encyclical Letter lauding the rich harvest that has blessed the zealous efforts of the American Bishops during the century and a half of its existence. One hundred Archbishops and Bishops, including Cardinal Dougherty, Archbishop of Philadelphia, gathered in Washington for the meetings and ceremonies held in connection with the sesqui-centennial observances. The United States Hierarchy was described as a "vast struc-

ture of strength which in the present crisis of the world's affairs is an outstanding bulwark of Holy Mother Church," at the Pontifical Mass which was the center of observance.

### NATIONAL CATHOLIC WELFARE CONFERENCE

Praising the generosity with which the Bishops have given themselves to the work of the N.C.W.C., Pope Pius XII lauded the "wisdom and foresight" with which the members of the Hierarchy are "meeting the problems of these changing times." Cardinal Pizzardo, president of the Central Office of Catholic Action in Rome, commended the "admirable zeal" with which the Hierarchy has striven through the N.C.W.C., "to develop every branch of the Apostolate." Cardinal Rossi, O.C.D., Secretary of the Sacred Consistorial Congregation, noting the "unceasing zeal" of the American Bishops, assured them his Congregation prays for the continued progress of the N.C.W.C.

Through its chairman, Archbishop Mooney of Detroit, the N.C.W.C. Administrative Board reiterated its ardent desire for peace in the ranks of labor, and expressed the hope "that the letter of President Roosevelt calling for peace and unity between the American Federation of Labor and the Congress of Industrial Organizations will attain its ends."

In April, at its spring meeting, the Board voiced prayerful hope that success might attend the American Government's efforts to bring the world's nations to a peace conference table. It also praised the Catholic University of America's crusade to promote "loyalties and civic virtues in a Christian



## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

democracy," decried the "dangerous aberrations antagonistic to democracy and Christianity," and condemned racial bigotry.

At their general meeting in November, the Archbishops and Bishops expressed profound gratitude to Pope Pius XII for his devotion to the cause of peace and called upon the Catholics of the country to emulate his example and "join in the effort of their Common Father." They warned against "hate mongers who set loose the evils of cupidity, anger, envy and revenge." They also expressed compassion for the Hierarchy, clergy, and people of Poland, authorized the establishment of the Bishops' Committee for Polish Relief, and moved swiftly to bring it into operation.

Following the general meeting, a committee composed of Cardinal O'Connell, Archbishop of Boston; Cardinal Dougherty, Archbishop of Philadelphia; and the Most Rev. Michael J. Curley, Archbishop of Baltimore and Washington, conveyed gratitude to Pope Pius XII for his Encyclicals *Sertum Laetitiae* and *Summi Pontificatus*, and his radio address to the Catholic University semi-centennial celebrations.

In a letter written for the Administrative Board in November, the Most Rev. Samuel A. Stritch, Archbishop of Milwaukee, and the Most Rev. Emmet M. Walsh, Bishop of Charleston, expressed the hope that the Christian family will emulate the charity of the Pope who "holds our colored brothers in special affection." The letter, addressed to the president of the Federated Colored Catholics of the United States, deplored the social injustices heaped upon the colored race.

The Pope's solicitude and encouragement for the Confraternity of Christian Doctrine, and his praise for the work done by the Catholic Rural Life Conference were expressed in letters received by the Most Rev. Edwin V. O'Hara, Bishop of Kansas City, Episcopal chairman of the N.C.W.C. Department of Social Action, and chairman of the Episcopal Committee on the Confraternity of Christian Doctrine.

Plans for the establishment of a world-wide Catholic news service issued in Spanish and Portuguese by the N.C.W.C. Press Department, and calculated for use chiefly by papers in Latin America, were announced by Bishop Gannon as Episcopal Chairman of the Press Department. This represents an expansion of the facilities of the N.C.W.C. News Service.

The Administrative Board of the N.C.W.C. elected at the 1939 General Meeting of the Bishops met and organized as follows: the Most Rev. Samuel A. Stritch, Archbishop of Milwaukee, chairman; the Most Rev. John B. Peterson, Bishop of Manchester, vice-chairman and Episcopal chairman of the Department of Education; the Most Rev. John A. Duffy, Bishop of Buffalo, secretary; the Most Rev. Francis C. Kelley, Bishop of Oklahoma City and Tulsa, treasurer; the Most Rev. John Gregory Murray, Archbishop of St. Paul, Episcopal chairman of the Department of Catholic Action Study; the Most Rev. Joseph F. Rummel, Archbishop of New Orleans, Episcopal chairman of the Department of Lay Organizations; the Most Rev. Hugh C. Boyle, Bishop of Pittsburgh, Episcopal chairman of the Legal Department; the Most Rev. Edwin V. O'Hara, Bishop of Kansas City, Episcopal chairman of the Department of Social Action; the Most Rev. John Mark Gannon, Bishop of Erie, Episcopal chairman of the Press Department. The Rt. Rev. Msgr. Michael J. Ready was appointed general secretary.

### NEW ARCHDIOCESE AT WASHINGTON

Erection of the City of Washington as a new Archdiocese, equal in rank with the Archdiocese of Baltimore to which it formerly belonged, created a situation unique in the United States. The two Archbishoprics on an equal footing were centered in the person of the Most Rev. Michael J. Curley, Archbishop of Baltimore and Archbishop-designate of Washington. This increased the number of Archdioceses in the United States to 20, but did not increase the number of the 19 Ecclesiastical Provinces.

## THE ROMAN CATHOLIC CHURCH

### EPISCOPAL CHANGES

The most Rev. Francis J. Spellman, Auxiliary Bishop of Boston, was named Archbishop of New York, succeeding the late Cardinal Hayes. He was also named to succeed Cardinal Hayes as Bishop Ordinary for the Army and Navy.

The Most Rev. Joseph Schrembs, Bishop of Cleveland, was raised to the rank of Archbishop but continued as Bishop of Cleveland. Bishop Edwin V. O'Hara was transferred from the diocese of Great Falls to be Bishop of Kansas City. The Most Rev. William Q. Brady became Bishop of Sioux Falls, and the Most Rev. William J. Condon became Bishop of Great Falls. The Most Rev. William J. Fitzgerald, S.J., was made Coadjutor to the Vicar Apostolic of Alaska. The Most Rev. Thomas A. Connolly became Auxiliary Bishop of San Francisco, the Most Rev. Richard J. Cushing, Auxiliary Bishop of Boston, the Most Rev. Albert L. Fletcher, Auxiliary Bishop of Little Rock, and the Most Rev. John F. O'Hara, C.S.C., president of the University of Notre Dame, Auxiliary Bishop for the Army and Navy Diocese.

### MISSION LAND BISHOPS

Three American priests were made Bishops to labor in dioceses abroad. The Most Rev. Louis LaRavoire Morrow was named Bishop of Krishnagar, India; the Most Rev. William J. O'Shea, M.M., Vicar Apostolic of Heijo, Korea, and the Most Rev. Frederick A. Donaghy, M.M., Vicar Apostolic of Wuchow, South China. The Most Rev. William A. Rice, S.J., named Vicar Apostolic of Belize, British Honduras in 1938, was consecrated in 1939.

### MISSION AID

Offerings made by Catholics of the United States to the General Fund of the Society for the Propagation of the Faith totaled \$869,980.64 in 1938, an increase of \$199,425.36 over the offerings for 1937. The Home Missions of the United States received approximately \$500,000 from the Catholic Church Extension Society of the United States in the fiscal year ended

Sept. 30. The receipts of the Association of the Holy Childhood rose to \$167,959.56 in 1938, an increase of \$68,959 in four years.

Archbishop Spellman of New York was named National President of the Missionary Union of the Clergy in the United States, and the Catholic Foreign Mission Society of America observed the twentieth anniversary of its first mission departure. Mission trailers and "highway chapels" were reported to be enjoying pronounced success in this country. The first Catholic school was opened in a 25,000 square mile territory in North Carolina, Catholic missionaries were at work among Indians on 81 reservations, 30,000 pounds of medical supplies were shipped to missions throughout the world, and missionaries continued to go to the Far North, Africa, China, and other remote points. A seminary and novitiate staffed by priests from Ireland was opened at Silver Springs, Md. by the African Mission Fathers.

### PAX ROMANA

The Eighteenth International Congress of Pax Romana, held in Washington and New York, was dramatic as well as historical. It marked the first time that the international secretaries of Catholic university federations ever met in the Western Hemisphere. The outbreak of the European war, the rising monetary exchange, and a sudden shortage of transportation facilities confronted the European delegates with a serious problem, and resulted in a considerable number of them being stranded in the United States. Because of the war, the international headquarters of Pax Romana was established on the campus of the Catholic University in Washington. A Catholic Bureau for Inter-American Collaboration was formed at the Pax Romana Congress.

During its meeting in Denver, the National Conference of Catholic Charities expressed its "keen desire for the guidance of the Hierarchy in its work for the cause of Catholic Charity," and told of its desire to have an ever closer affiliation with

## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

the National Catholic Welfare Conference. At the organization meeting of the N.C.W.C. Administrative Board in November, the Most Rev. Charles Hubert Le Blond, Bishop of St. Joseph, was named Assistant Bishop of the Social Action Department representing the National Conference of Catholic Charities.

The Most Rev. Karl J. Alter, Bishop of Toledo, as Assistant Bishop of the Department of Social Action, N.C.W.C., was assigned as Counsellor of the Conference of Diocesan Representatives for Hospitals. Monsignor John R. Mulroy, director of Charities of the Diocese of Denver, was elected president of the National Conference of Catholic Charities, and Bishop Le Blond was again invited to serve as honorary president.

Something of the tremendous efforts put forward by Catholic Charities in the United States is reflected in the announcements in 1939 that the Catholic Charities of the Archdiocese of Chicago alone had expended \$1,750,000 in 1938, and that the Catholic Charities of the Archdiocese of New York had expended \$7,500,000 to give family relief to 700,000 individuals in the course of 19 years.

### EDUCATION

St. John's Major Seminary opened in the Archdiocese of Los Angeles; the new seminary of the Society of the Divine Savior at Nazianz, Wis. was dedicated, and the establishment of a preparatory seminary was announced in the Diocese of Providence. Other Catholic institutions of learning were launched, and existing colleges and universities notably extended their facilities. Columbia College, Dubuque, Ia., changed its name to Loras College. A national scholastic honor society for Catholic college graduates was organized. More than two dozen Catholic colleges and universities were approved by the Civil Aeronautics Authority as training centers for aspirants to the Civilian Aviation Corps. The Rockefeller Foundation made a grant of \$85,000 to the Department of Psychology at the Catholic University of America.

Oregon passed a bill providing free bus transportation to private and parochial school pupils, while an Oklahoma district court held a similar law in that state unconstitutional. Kansas passed a law to provide free textbooks to private and parochial school children, equally with the tax-supported school children. The Illinois Supreme Court ordered the issuance of a permit to build a parochial school in Winnetka where it had been banned under a zoning regulation. Health services and appliances available to children of tax-supported schools were made available also to children in private and parochial schools in New York. Free textbooks were made available to all children alike in West Virginia.

### CATHOLIC PRESS

Don Juan de Cardenas, Ambassador of Spain to the United States, conveyed to the Catholic Press of the United States the thanks of Spain for having brought out the true facts of the Spanish civil war. The Catholic Interracial Council thanked the Catholic Press for its "forthright co-operation in the cause of the disadvantaged American Negro."

The Catholic Press Association pledged continued warfare on indecent publications and dedicated itself anew "with increased vigor to its high ideal of championing Catholic principles and the preservation of American Democracy." It reiterated its intention to combat the propaganda and activities of Communist, Fascist, and Nazi agencies and societies.

A half-dozen new Catholic publications were launched, two existing Catholic newspapers were merged, one changed its name, and several acquired new editors. A particularly notable contribution of the Catholic Press was again its service as a corrective agency, setting aright a number of erroneous reports circulated about the Church or Catholic institutions and practices.

### LABOR

The Rev. J. W. R. Maguire, C.S.V., prominent mediator in labor disputes, was given a major share of the credit



## THE ROMAN CATHOLIC CHURCH

for settling a bitter strike which lasted for six weeks on the Green Mountain Dam, part of the \$44,000,000 Federal reclamation project in northwestern Colorado.

The Catholic Conference on Industrial Problems has held outstanding meetings in Detroit, Indianapolis, Philadelphia, Seattle, and Dubuque, sponsored in each case by the Ordinary of the Diocese. Catholics and non-Catholics, authorities in their respective lines, contributed to the program. A one-day Conference on the Negro in Industry was held in Pittsburgh preliminary to the Convention of the National Interracial Federation. Two C.C.I.P. pamphlets were issued and more than 5,000 reports and other literature of the Conference distributed. Through the medium of the Conference many copies of the Encyclicals *Rerum Novarum* and *Quadragesimo Anna* and Pamphlets of the N.C.W.C. Social Action Department were distributed.

Addressing the 59th annual convention of the American Federation of Labor, the Most Rev. John T. McNicholas, O.P., Archbishop of Cincinnati, issued a plea that the organization have Christ the Worker in its councils and deliberations. Bishop Sheil appealed for peace within the ranks of organized labor in an address to the national convention of the Packing House Workers Organizing Committee, a C.I.O. affiliate.

The second National Catholic Social Action Congress attracted persons to Cleveland from all parts of the country. More than a dozen members of the Hierarchy, 250 speakers, and 60 sectional meetings were among the magnets at this brilliant three-day meeting.

The labor movement, social legislation, and wages in the light of Catholic teaching were discussed at the third annual Institute of Industry, sponsored by the National Council of Catholic Women and held at the National Catholic School of Social Service in Washington.

### INDECENT LITERATURE

Estimating that 450 indecent publications were reaching 60,000,000 read-

ers in the United States, the Bishops' Committee on Indecent Literature, of which Bishop John E. Noll is the chairman, outlined plans for a National Organization for Decent Literature. The N.O.D.L. was quickly organized throughout the country, and Bishop Noll said in mid-March that "in many places Protestants and Jews are cooperating beautifully with Catholics in the drive against lewd literature."

Reporting toward the close of the year that the first and most important battle against indecent literature has already been won, Bishop Noll made it clear that "this does not mean that a permanent victory has been achieved," because the magazine racks must be kept clean.

In addition to carrying on the Catholic Hour and maintaining its Catholic Evidence Bureau, the National Council of Catholic Men established a Catholic Radio Bureau, and engaged the services of a field secretary. The National Council of Catholic Women announced the establishment of four new diocesan councils, bringing the total affiliations to 63 diocesan councils, two state councils, and 16 national organizations.

### SCIENCE

Emulating the deep interest Pope Pius XII has shown in true science, which he called the "daughter of God," Catholic students in the United States made some notable contributions in this field during 1939. St. Francis Hospital in Cincinnati became one of the country's leading cancer research institutions through the opening there of a new scientific research laboratory fitted up by the Institutum Divi Thomae, graduate school of scientific research of the Archdiocese of Cincinnati. The Most Rev. John T. McNicholas, O.P., Archbishop of Cincinnati, officiated at the opening.

A newly discovered cellular substance, which "may go far toward explaining the cause of cancer and which may be of great use in an eventual cure," was reported by Dr. George Speri Sperti, director of the



## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

Institutum Divi Thomae, in a paper read before the Third International Cancer Congress. A new, and what is believed to be more efficient, method of pneumonia treatment was reported by a Loyola University professor and a Cook County Hospital doctor in Chicago. Catholic University scientists brought back from the Arctic region botanical and geological specimens which may revolutionize many theories on the Far North. The Rev. Francis P. Le Buffe, S.J., science editor of *America*, was elected president of the Catholic Anthropological Conference.

### THE POPE

Eugene Cardinal Pacelli was elected on March 2 in a Conclave which lasted a bare 24 hours, the shortest in recent times, and took the title of Pius XII. He became the first Pontiff whose election was announced to the world by radio, the first Pope elected since the settlement of the so-called Roman Question, the first to have flown in an airplane, the first to have visited the United States, and the first to have visited both North and South America.

In less than 24 hours after his election, Pope Pius XII broadcast his first address to the world, saying peace for all the world was the "first wish" rising from his heart as he mounted the throne of St. Peter. From that moment he has worked unceasingly for peace, and he was profoundly grieved that his unwavering efforts could not forestall the outbreak of the European conflict on Sept. 1.

In his Easter message, the Pope called individuals, peoples, and governments to seek "peace with justice and charity." A few days later he warned that the knowledge and love of God is the only ethical remedy for the ills of society, and almost at the same time asked for a crusade of prayer for peace during May. There followed quickly a discourse of peace delivered before members of the Sacred College which aroused profound sentiments of gratitude everywhere. On Aug. 19, the Pope appealed again for settlement of international dis-

putes without resource to force, and five days later delivered his now celebrated last-minute admonition that "nothing is lost with peace; all may be lost with war."

When troops began to march, the Pope appealed to all the world to pray that the horrors of war might be minimized. In his first encyclical, the Pope arraigned in the sternest terms Statism and the evils it breeds, and sounded a ringing call for a new and militant Christian solidarity to save world civilization. In an Encyclical marking the 150th anniversary of the American Hierarchy, he lauded the rich harvest which its "tireless labors" have brought.

No new Cardinals were created in 1939. The Sacred College had 62 members on Jan. 1, eight short of its full complement, and the number was reduced to 57 by the close of the year. Cardinals Donato Sbarretti, Cernico Mariani, Angelo Maria Dolci, and George Mundelein died.

His Eminence Luigi Cardinal Maglione, former Papal Nuncio to France, was named Papal Secretary of State, His Eminence Lorenzo Cardinal Lauri was named Camerlengo of the Holy Roman Church, and His Eminence Raffaello Carlo Cardinal Rossi, O.C.D., Camerlengo of the Sacred College of Cardinals.

Receiving the Lithuanian Minister on Oct. 18, Pope Pius XII definitely indicated that he would, if requested, direct his activities toward settlement of temporal controversies between States. He gave notice, however, that, unless requested, he would, as Supreme Pastor, be concerned only with combating the menace to Christian Europe and the dangers which threaten the salvation of souls.

Pope Pius held his first Consistory on Dec. 11, but limited it in purpose to the naming of Bishops to fill vacant Sees.

### CATHOLIC ACTION IN ITALY

Pope Pius XII appointed a commission of prelates to direct Catholic Action in Italy, and it effected readjustment which brought the apostolate there closer to the ideas of Pope Pius XI.

## THE ROMAN CATHOLIC CHURCH

Two members of the Sacred College—Cardinal Schuster, Archbishop of Milan, and Cardinal Nasalli-Rocca, Archbishop of Bologna—condemned Racism as exotic and intolerable to the Italian people.

Pope Pius XII said on Dec. 7 that, having kept out of the European war so far, Italy is in "a most favorable position to cooperate in the advent and reestablishment of true peace based on the noble principles of justice and humanity."

### POLAND

The invasion of Poland by Germany and Russia resulted in ten former Polish dioceses in the territory falling under Russian domination. Thus some 9,000,000 of Poland's 24,300,000 Catholics have become subjects of the Bolsheviks, and the reports reaching the outside world vindicates the extreme apprehension which the Vatican has felt for their well-being.

Reports from various sources state that the Red Army has been, and is, arresting many priests in Poland; that Catholic priests have been "liquidated" in large numbers; that some Bishops have been executed, some deported to Russia, and that others are "missing"; that all religious houses have been suppressed; that churches have been seized; that the Cathedral of Lwow has been desecrated. It is known that the Soviet godless organization has moved into the conquered area and set up an intensive anti-religious campaign.

Cardinal Hlond, Archbishop of Gneisen and Posen, Poland, was under fire from enemy artillery during much of the journey that brought him out of Poland. He went to Rome where he was accorded a most impressive welcome. Speaking from the Vatican City radio station, he appealed to his fellow Poles to await trustfully the hour of their country's return to a life more prosperous and stronger than ever.

### GERMANY

Although the 37,500,000 Catholics in the Reich are almost one-half the total population of Greater Germany

and almost one-tenth of the total Catholic population of the world, the relentless, systematic persecution of the Catholic Church in that country increased in 1939.

Chancellor Hitler ordered the flags of Nazi Germany flown at half-staff when Pope Pius XI died, but his Reichstag speech, one of the most violent and most ruthless he ever delivered, blasted all hope of early abatement of religious persecution. After the Pact with Soviet Russia was signed, Nazi officials let it be known that no German publication, not even religious bulletins, could thereafter use articles or items directed against Communism or the atheist movement.

The 1939 annuary of Catholic clergy in Germany showed that 687 houses of religious congregations of men had disappeared since 1937, that the number of Religious had dropped, and the number of novices had decreased by 36 per cent. Meanwhile the Archbishop of Salzburg was evicted from his home, abbeys were invaded, theological schools were closed, more Catholic publications were wiped out, and the last vestige of Catholic journalism disappeared and churches were closed. Catholic schools in the Rhineland were also closed and it was made clear that the Reich intends to deprive the Church of all influence in the field of education. New restrictions were placed on church collections, financial pressure was exerted on Bishops, Catholic funerals came under attack, dissolution of the few remaining Catholic organizations was begun, Church property was menaced, and new and venomous attacks on the clergy were launched by Nazi officials.

### AUSTRIA

In Austria stock was taken of abbey and convent possessions to see what could be sent abroad for foreign cash. Incunabula, chasubles, crucifixes, censers, carpets, and other things were taken from the Abbeys of Melk, Giettwieg, Klosterneuburg, and other places. Attacks were made upon Cardinal Innitzer, Archbishop of Vienna,

## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

and his secretary was jailed. Reports said the Kulturkampf was being applied in what was formerly Czechoslovakia, and restriction applied by the Reich authorities forced the abandonment of a religious ceremony which Moravia has observed annually for 200 years. Withdrawal of the Government subsidy on May 1 plunged the Church in Austria into intense poverty.

However, Nazi outrages apparently have failed to break down the fervor of German Catholics. *Reichswart*, a Berlin weekly, admitted that "Christianity still constitutes the strongest religious element in Germany," and Cardinal Bertram, Archbishop of Breslau, lauded his people for their steadfastness in their faith. At the same time sales of the Bible increased throughout Germany. Thousands of Munich Catholics took part in the public Trinity Sunday procession in spite of veiled threats in the Nazi press.

At the beginning of the year, the German bishops issued a joint pastoral stressing the fact that marriage is not a private contract but a Sacrament, above the caprices of the human will. They condemned sterilization. Individual Bishops spoke out against the closing of church schools, systematic propaganda against the Church, and restrictions on Catholic charities. Archbishop Kasper Klein of Paderborn brought suit in court against certain members of Chancellor Hitler's own Storm Troopers Guard for a public parade which slandered the Catholic Church.

### CZECHO-SLOVAKIA

Although it was reported last summer that the Church was unmoled in this occupied territory, a large number of anti-religious acts were said to have been committed in the Bohemia and Moravia protectorates later. All Catholic associations in the former Sudeten territories were suppressed by the Nazi police. Reliable sources were quoted as saying ecclesiastical properties in Bohemia and Moravia were under surveillance, and that numerous prominent members of the clergy had been arrested

by the German Gestapo. One hundred churches in the Prague Archdiocese were without priests, because they had been imprisoned.

### CANADA

One of the last public utterances of Pius XI was that Canada had a great future before it, not only in the economic and financial sense but also in the religious and spiritual spheres. The occasion was an audience the Pope granted, a week before his death, to the faculty and students of the Canadian College in Rome on its fiftieth anniversary. As Papal Legate to the St. Joan of Arc festival at Domremy, France, last June, Pope Pius XII chose Cardinal Villeneuve, O.M.I., Archbishop of Quebec.

New Sees were created and important Hierarchical changes were made in Canada. The Most Rev. Paul Bruchesi, Archbishop of Montreal, died at the age of 84 years. The three-day convention of Holy Name Societies in Ontario, held at Toronto, and the nineteenth annual meeting of the Catholic Women's League, held at Winnipeg, were highly impressive. With the outbreak of the war, the Knights of Columbus inaugurated an appeal for funds with which to operate "army huts" in Canada, England, and France.

### MEXICO

There has been little change in the religious situation in Mexico. There has been an increasing tolerance in the matter of re-opening churches, but the anti-Catholic laws have not been repealed and can be invoked at the whim of state or Federal authorities. The school problem causes grave concern. President Cardenas has proposed changes in the Education Law which are roundly attacked as constituting state monopoly of education and violation of a half-dozen sections of the Constitution.

Representatives of the Hierarchy in the United States and the Hierarchy in Mexico met in Mexico City in July to consider matters relating to Montezuma Seminary in New Mexico, established by the American bishops for the training of Mexican candidates for the priesthood.



## THE ROMAN CATHOLIC CHURCH

### WEST INDIES AND BAHAMAS

In Cuba, where President Laredo Bru proclaimed three days of national mourning on the death of Pope Pius XI, a National Concentration organized by the Federation of Catholic Youth of Cuba, developed an impressive manifestation of faith and a public recognition of the loyalty of Cuban youth to Christ. In Haiti, where 99 per cent of the missionary priests are French, the people awaited with sadness the departure for the scene of war in Europe of 97 priests from the five dioceses in the country. The Sisters of Charity in the Bahama Islands observed the fiftieth anniversary of the first Catholic free school for native children.

### CENTRAL AMERICA

President Arosemena of Panama paid tribute to a Catholic woman's signal contributions to the educational advancement of girls when he named Senora Esther N. de Calvo to represent the Isthmian Republic on the Inter-American Commission. The Most Rev. José Antonio Lezcano y Ortega, Archbishop of Managua, delivered an invocation at the opening of the Nicaraguan Constituent Assembly which was impressive not only in relation to events in that country, but also in relation to world affairs.

### SOUTH AMERICA

The President of Peru named Blessed Martin de Porres, Dominican colored lay brother, as Patron of Social Justice and Social Relief in his country, and it was announced that the plans to erect a Basilica in honor of St. Rose of Lima are well advanced. Uruguay resumed diplomatic relations with the Holy See for the first time since 1898. Ecuador sent a new minister to the Vatican.

More than 100 Bishops attended the Plenary Council of the Brazilian Hierarchy held at Rio de Janeiro on July 2. Matters of the highest importance to the Church in Brazil were discussed. President Getulio Vargas addressed the concluding session, and paid high tribute to the record and role of the Church in upbuilding the nation.

Chile suffered a devastating earthquake which killed some 40,000 of the faithful, destroyed churches, schools, convents, and rectories, and laid whole areas waste. Members of the Hierarchy expressed deep anxiety for the future of the Church in the stricken dioceses unless funds were forthcoming for the immediate reconstruction of demolished religious edifices. Catholics—priests and laymen—were prominent in the Social Service Commission which went from the United States to Venezuela to help in the formulation of a program of social action for the government of that country.

Argentina recalled with pride that Pope Pius XII had visited that country in 1934 as Papal Legate to the International Eucharistic Congress in Buenos Aires. The General Council of Education for the Province of Buenos Aires met with popular acclaim when it approved of a plan for religious instruction in schools submitted by the ecclesiastical curia.

### SPAIN

One of the brightest happenings of 1939 was the ending of Spain's civil war. It was said that some 17,000 priests had been murdered by radicals in the course of the hostilities, and that 30,000 Spanish children, expatriated by the Leftists for propaganda purposes, were still abroad. Untold havoc was wrought to Catholic institutions, and many churches were plundered.

Giving public thanks to God for victorious arms, Generalissimo Francisco Franco swore in his new cabinet officials on the Gospels, revived the public observance of numerous Christian feasts, made the restoration of churches a special objective of Spain's new council, and in a radio message to Latin America announced plans for a great international pilgrimage to the Shrine of Nuestra Senora del Pilar at Zaragoza in 1940.

### FRANCE

France, which this summer staged religious ceremonies at Domremy, the birthplace of St. Joan of Arc, at Lyon and at other points, was again en-



## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

gaged in war as the year drew to a close and was taking drastic steps to protect its numerous churches from air raids.

Fifty Archbishops and Bishops attended the French National Eucharistic Congress held at Algiers in May, and His Eminence Jean Cardinal Verdier, Archbishop of Paris and Papal Legate, was received with due solemnity by the Governor General. President Albert Lebrun attended the Mass offered in the Cathedral of Orleans to commemorate the 510th anniversary of the lifting of the siege of Orleans. Later he was host at a luncheon given in the Elysee Palace to Cardinal Villeneuve, Papal Legate to the ceremonies at Domremy.

### BELGIUM

King Leopold of Belgium was a leading figure in the Oslo Conference, wherein a group of the smaller nations considered the means of meeting the threat of war, and his message to the gathering was a plea for peace. The King sent the original text of this peace plan to Pope Pius XII, and received an autographed letter wishing success for their common efforts for peace.

### IRELAND

Ireland responded in a most remarkable manner to the appeal of Pope Pius XII for a crusade of prayer for peace. Pilgrimages to Ireland's celebrated shrines were extraordinarily impressive.

Preaching at the consecration of the Cathedral at Mullinger, Ireland, the most Rev. John J. Glennon, Archbishop of St. Louis, said cathedral building offers Ireland new opportunities for its spiritual development. Cardinal Joseph MacRory, Archbishop of Armagh, and the Bishops of Northern Ireland issued a statement strongly condemning any proposal by Great Britain to impose conscription in the Six-Counties.

### ENGLAND

The arrival in London in February 1939 of the Most Rev. William Godfrey, newly appointed Apostolic Delegate to England, coincided almost

exactly with the death of Pope Pius XI. Archbishop Godfrey sang a Pontifical Mass of Requiem for the late Pontiff in Westminster Cathedral, and it marked the first time in history that a Mass was broadcast in England.

It was said that construction work on the Cathedral at Liverpool will continue in spite of the war.

### PORTUGAL

Portugal, which counts as one of its greatest glories the restoration of religious peace after long years of unrest, announced plans for an exposition next May in commemoration of its eighth centenary. Assailing the neo-pagan forces behind war, Cardinal Manuel Concalves Cerejeira, Patriarch of Lisbon, said in a pastoral to his people that "the Christian cannot remain neutral between God and atheism, between truth and duplicity, between justice and violence, between right and oppression." The Cardinal, eleven Archbishops and Bishops, and 200 priests led some 30,000 Portuguese on a pilgrimage to the National Shrine of Our Lady of Fatima, in a petition for world peace.

### HUNGARY

The Bishops of Hungary spoke out against Racism early in 1939 and strongly opposed anti-Semitic legislation when it was being considered in parliament. It was through an appeal by Cardinal Seredi, Primate of Hungary, that the bill was modified to remove some of its harshness. Regent Nicholas Horthy, in opening the Hungarian Parliament in June, declared that current international differences could have no better solution than for the peace efforts of "that highest of authorities, the Pope, to result in a conference of great powers."

### SLOVAKIA

The independent Slovak State adopted a constitution, the basic principle of which is "All power emanates from God." The Most Rev. Xavier Ritter, who was Nuncio to Czechoslovakia, was transferred to Slovakia, with residence in Bratislava, the capital.

## THE ROMAN CATHOLIC CHURCH

### YUGOSLAVIA

Yugoslavia, it was revealed last summer, has a total population of 14,000,000 persons, of whom 5,286,000, or 37.8 per cent are Catholics. An impressive sixth International Congress of Christ the King was held in Ljubljana in the summer. Representatives of 20 nations took part.

### HOLLAND

The Bishops of Holland, in a joint pastoral, renewed the penalties imposed for adherents by Catholics to the principles of Communism. Plans were under way to bring the Carthusians, historic contemplative religious order, back to Holland for the first time since the "Reformation."

### DENMARK

When Bishop Theodore Suhr, O.S.B., Vicar Apostolic of Denmark, was consecrated on Jan. 15 at the Vatican, he became the first native Danish Bishop since the "Reformation."

### LUXEMBOURG

Luxembourg noted the twelfth centenary of the death of St. Willibrord, the Apostle of the Grand Duchy and of Holland. Bishop Joseph Phillippe of Luxembourg issued a pastoral letter urging his people to make a "particularly solemn celebration" of the Feast of Christ the King, because of increasing moral distress in the world.

### SWITZERLAND

In Switzerland, where all parishes are holding permanent prayer crusades for peace, Bishop Mario Besson of Lausanne revived the work for the assistance of war prisoners which was conducted during the World War.

### NORWAY AND SWEDEN

The Barnabite Fathers in Norway celebrated the fourth centenary of the establishment of their Order by St. Anthony-Maria Zaccaria. At about the same time, *Nya Dagligt Alla-handa*, an important Lutheran daily of Stockholm, proclaimed to the country that the Catholic Church is the champion of world Christianity and lauded recent Popes and their secretaries of state.

### GREECE

Attending a rally of the National Young Women's League in Athens, General John Metazas, head of the Greek Government, paid tribute to the work of Catholic schools throughout Greece and publicly thanked the Sisters for their unflagging efforts to raise to a higher moral and cultural level the rising generation of Greek women.

### RUSSIA

The militant atheists in Moscow accelerated their efforts to turn Soviet Russia into a completely godless country. The godless deplored the survival of religion in Russia in spite of their best efforts, attempted to stir up the people against a possible "religious renaissance" as a result of the war, and assigned 38,000 commissars of atheism to the Russian Army.

There were indications that the practice of religion was widespread in Russia despite these tactics. The 12 churches in Moscow were crowded at Easter time, and the vicinity of each looked like a camping ground, so great were the crowds. A Solemn Requiem Mass for Pope Pius XI was celebrated in the Church of St. Louis, Moscow. The Rev. Leopold Braun, an American who went to Russia after the United States recognized the Soviet Union and who is pastor of the Church of St. Louis, was celebrant.

### AUSTRALIA

Australia lost its celebrated Catholic Prime Minister, Joseph A. Lyons, in April. St. Christopher's Church—the first Catholic church in Canberra, capital of Australia—was solemnly opened. Establishment of Canberra as the capital was begun 15 years ago, and until this year Mass was offered in a tent, a public hall, and a convent school. Sixty thousand persons attended a peace rally held in Melbourne under the auspices of the Catholic Peace Committee. Prime Minister R. G. Menzies was one of those taking part.

### CHINA

From the standpoint of the Church, the year 1939 in China presented a

## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

picture of pronounced shadows and some encouraging highlights. Conditions, notably the Sino-Japanese conflict, but in some cases flood, seriously hampered the work of Catholic Missions in many parts of China. As a compensation, there was an increasing wave of sympathy for the Catholic Church because of the valiant relief work undertaken by Catholic missionaries. Bombs wiped out the American Maryknoll Mission at Kweilin, the Bishop's house, the Cathedral, the convent, the college and other Catholic structures at Kieting, the mission of Sinyangchow, where the whole town was demolished, and at other points. Floods in Tientsin district of Hopeh caused widespread damage and paralyzed mission work. There were reports of at least two priests being slain by bandits, of a Bishop and 11 priests and a number of catechists being taken prisoners.

### JAPAN

The Japanese people have a great respect for the Catholic Church and for the contribution it is making to their national life, the Most Rev. Paul Marella, Apostolic Delegate to Japan, declared upon a visit to the United States in 1939. Earlier, Archbishop Marella lauded a newly passed law in Japan for the regulation of religious organizations. He said the legislation gave legal personality to religious bodies within the civil life of the Japanese nation for the first time, and that it is expected to confer great advantages upon the Catholic as well as other groups in the Island Empire.

### HOLY LAND

The Holy Land, scene of much unrest early in 1939, was more quiet

toward the end of the year. En route to Lebanon to preside as Papal Legate to the first Eucharistic Congress held there, Cardinal Tisserant, secretary of the Sacred Congregation for the Oriental Church, visited Catholic works of the Coptic Rite in Cairo, Egypt.

### AFRICA

The French National Eucharistic Congress held at Algiers was an enormous success, and some 500,000 persons from all sections of North Africa and France participated. Two native Africans were among the 12 Missionary Bishops Pope Pius XII personally consecrated in St. Peter's Basilica at the Vatican. This raised to three the number of native Bishops in Africa. Another Negro priest, the Rev. Joseph Faye, was appointed Prefect Apostolic of Ziguinchor, Senegal. Statistics showed that Catholics in the Belgian Congo now number more than 1,900,000; that the Catholic population of Central Africa increased more than 100,000 in a single year; and that encouraging growths were shown in many other sections.

### INDIA

Although the growth of national consciousness among the 350,000,000 inhabitants in India owes a great deal to Christianity, Catholics in 1939 found themselves faced with tendencies in the vigorous nationalistic movement which are perilous to the interests of Christianity. Some nationalist enthusiasts accused the Christian religion of being a foreign importation at variance with the traditions and inimical to the aspirations of the people.

## THE EASTERN CHURCHES

By E. R. HARDY, JR.

GENERAL THEOLOGICAL SEMINARY, NEW YORK

### HELLENIC ORTHODOX CHURCH

The seventh Convention of Clergy and Laity of the Archdiocese of North and South America was held

in Detroit Oct. 15-21, 1939, and attended by 83 priests and 96 lay delegates from Greek parishes in the United States and Canada. The

## THE EASTERN CHURCHES

meetings of the Greek educational and philanthropic societies associated with the Church were held at the same time and they reported very satisfactory progress. The convention has been changed from quadrennial to biennial; at the next meeting, to be held in Philadelphia in 1941, a revision of the statutes of the archdiocese will be undertaken.

The first student of the Preparatory Theological School at Pomfret, Conn., to be ordained was advanced to the priesthood Sept. 22.

### RUSSIAN ORTHODOX CHURCH

The largest part of the Russian Orthodox Church in America is united under the synod headed by the Metropolitan Theophilus, elected in 1934, who this year undertook his first visitation of the Canadian diocese of the Russian Church. In Alaska Bishop Alexey established a monastery of St. German on Spruce Island, where St. German, one of the early missionary monks, died in 1837. The increasing Americanization of the younger generation has led several parishes to conduct some of their services in English, at least in part, especially services for young people.

The Ukrainians and Carpatho-Russians are separated from the bulk of the Russian nation by differences in dialect and by the long period which they spent under Polish and Hungarian rule. The major part of both groups in the homeland are Uniats, that is, churches of eastern rites in communion with Rome. In America a number of parishes have broken away from this connection. Bishop Bohdan of the Ukrainians and Bishop Orestes (Chornock) of the Carpatho-Russians are affiliated with the Greek Church, as the representatives in this country of the patriarchate of Constantinople. Several more parishes have joined the Carpatho-Russian diocese, and litigation in Pennsylvania has again resulted in favor of its right to the name Greek Catholic and the property of a Greek Catholic parish which wished to join it.

### OTHER ORTHODOX CHURCHES

Several of the Orthodox groups improved their representation in

New York. Archbishop Anthony Bashir of the Syrian Church dedicated in April the improved and adorned structure of his cathedral in Brooklyn, and Bishop Polycarp Morusca of the Rumanian Church dedicated on July 23 a house on West 89th Street which had been adapted for the use of the Rumanian congregation. The Serbians of New York are planning the establishment of a parish. The strength of these churches is, of course, mainly in the districts to which considerable numbers of their nationalities have migrated.

### ORTHODOX CHURCHES ABROAD

New occupants have taken over several important positions in the Orthodox hierarchy. Nicholas, patriarch of Alexandria, died during the year, and Christopher, formerly Metropolitan of Leontopolis, was elected in his stead. Miron Cristea, Patriarch of Bucharest, and at the time of his death Premier of Rumania, died in France on March 6. His successor as patriarch is Nicodim, who received 406 out of 458 votes in the electoral assembly. He had been Archbishop of Moldavia, and recently completed a Rumanian translation of the Bible. The position of Metropolitan of Athens has been filled by Chrysanthos, formerly Metropolitan of Trebizond, who was enthroned Dec. 18, 1938. He had rendered distinguished service in protecting both Turkish and Greek civilians at Trebizond during the World War, and since the expulsion of Greeks from Asia Minor had served as representative of the Oecumenical Patriarch at Athens.

The character of the Orthodox communion as a group of national churches gives it a close connection with the national life of the countries in which it predominates. The established churches of the Balkan states are closely bound up with the political fortunes of their respective countries; thus, the increase of friendly relations between the Serbian and Bulgarian Churches was assumed to be an action of diplomatic significance. A new church law in Greece



## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

aims at discouraging proselytism from the Orthodox Church. In territories under British control the Orthodox Church, as in the Turkish period, has been an organ of Greek national feeling. Because of political difficulties it has been impossible to hold episcopal elections in Cyprus where two out of four sees are vacant. The solution of the administrative problems of the patriarchate of Jerusalem, however, has been somewhat advanced. Timotheos, Patriarch-elect since 1935, has received the *berat* from the King and been installed. The adjustment of interests between the Arabs who constitute the bulk of the laity and the Greeks who provide the more learned and prominent clergy must now be attempted, and a proposed constitution has been drafted.

Although positive anti-religious propaganda in Russia may have declined somewhat, the anti-religious policy of the Soviet Government continues. Figures given out in 1939 mentioned 20,000 religious organizations, as opposed to 30,000 some years ago. This would mean at least 20 for each parish willing to run the risk of being publicly registered as supporters of the Church, although the number of believers is admittedly much higher. Mention of wandering priests and secret monasteries in the Soviet press shows that religion is not limited to the organizations which attempt to cope with the legal disabilities imposed on them.

### RELATIONS WITH OTHER CHURCHES

The Orthodox Churches are so largely confined to their own quiet work of worship and maintenance of religious and (in varying degrees) national traditions that they rarely appear in American news. Perhaps it deserves to be mentioned, therefore, that the Greek and Rumanian pavilions at the New York World's Fair were the scene of several functions in which their respective prelates took part. Archbishop Anthony of the Syrian Church is, as representative of the only Orthodox Church which belongs to the Federal Council of

Churches, a member of the executive committee of that body. At the meeting of the continuation committee of the World Conference on Faith and Order, which was held in Switzerland in August, the Orthodox Churches were represented by Metropolitan Germanos, a vice-chairman, and by several Russian theologians. The latter, especially those from the Paris Theological Academy, took a prominent part in its discussions. In America there is still much place for the development of personal contacts, especially since most of the Orthodox groups represent nationalities of fairly recent arrival. Joint services, in which Orthodox clergy and choirs took part, usually in Episcopal churches, have been reported from Philadelphia, Baltimore, Charleston, S.C., and San Francisco, and have doubtless been held elsewhere.

A valuable article by W. G. Tinckom-Fernandez on "Eastern Orthodox Churches and Peoples in the United States" appeared in the summer number of *Christendom*, the review which serves as American organ of the World Council of Churches.

The efforts, encouraged by the Vatican, to promote understanding between Catholics of the Eastern and Western rites may be noted in this connection. "Oriental days," with celebration of the Byzantine liturgy, have been held at several seminaries. A letter from Cardinal Tisserant, prefect of the Congregation for the Oriental Churches, to a magazine published in the interests of this movement, asked for the abandonment of the term "Uniat." on the ground that all are equally Catholics.

### THE ARMENIAN CHURCH

Archbishop Karekin Hovsepian, whose previous election as prelate for the (eastern) United States had not been confirmed by the acting Catholics of All Armenians at Etchmiadzin, Soviet Armenia, was unanimously reelected by the (American) Armenian National Assembly on April 16. This time the election was confirmed. Archbishop Hovse-

pian, aged 70, is a graduate of the Seminary at Etchmiadzin and of the University of Berlin. Under his leadership it is hoped that the groups associated with the nationalist society "Tashnag" which were opposed to the late Archbishop Tourian and have been separated from the Church since his death will be reunited with it. They are still in control of several parishes, however.

Two holders of ancient sees in the Armenian Church have died. Thorgom Goushakian, scholar and devotional writer, Patriarch of Jerusalem since 1932, died Feb. 10, and was succeeded by Mesrob Neshanian. Sahag Khabayan, Catholicos of Cilicia, died Nov. 8 at the age of 91 at Antilias, Lebanon. A Bishop since 1885 and Catholicos since 1902, he had been a leader of the Armenian nation through many of its troubles, and after the expulsion of the Armenians from Turkey reorganized his Catholicossate with its institutions in Lebanon. In July the return to Turkey of the former Sanjak of Alexandretta led to the flight of nearly all of its remaining Armenian population (14,000) to Syrian or Lebanese territory.

## LESSER EASTERN CHURCHES

The Jacobite (Monophysite) patriarch of Antioch has issued a formal repudiation of several small American sects which claim connection with his branch of the Syrian Church through a certain Bishop Villatte. The only churches recognized by the Syrian Jacobite Church in America are its own few parishes in this country.

It is reported that Mar Shimun, patriarch of the Assyrian (Nestorian) Church, intends to visit the Assyrian communities in America during 1940. The remaining Assyrians are living under conditions of great difficulty, partly in Iraq, partly in the French mandate of Syria, and he himself has only recently been able to acquire citizenship for himself and his family in Cyprus.

The Italian Government has exerted itself to separate the Ethiopian

Church from its ancient dependence on the Coptic Church of Egypt. The Abuna Cyril was summoned to Rome to discuss the matter, but instead retired to Egypt. One of his Abyssinian suffragans, Abraham, was proclaimed patriarch, but was excommunicated by the Coptic synod in Cairo.

## EFFECTS OF THE WAR IN EUROPE

The Soviet occupation of eastern Poland has added to the U.S.S.R. a considerable number of Russian Orthodox in former Russian Poland, and of Uniats in the formerly Austrian territory of Galicia, or the Western Ukraine. Naturally this meant the end of religious instruction in schools and other advantages enjoyed by the Church, and a number of churches are reported to have been closed and priests killed. Among the latter was the Most Rev. Count Andreas Szepticky, Archbishop of Lwow, and long a national as well as religious leader. The American-Ukrainians, both Orthodox and Uniat, have joined in protests at the Russian occupation, which is a serious threat to their religious heritage, as the polonization policy of the Polish Government was to their national tradition.

International meetings and conferences are naturally at a standstill. The Russian Theological Academy in Paris succeeded in opening, although with a reduced number of teachers and students. In the Armenian Church the election of a successor to the late Catholicos of All Armenians is indefinitely postponed.

In the past the Eastern Churches have contributed richly to the growth and prosperity of their respective nations, and have suffered in their misfortunes, a fate to which several of them seem to be called again. All the more importance, therefore, attaches to the branches of those churches which, in spite of all difficulties, are now striking root in the free soil of America.

## JUDAISM AND JEWISH COMMUNAL AFFAIRS

BY HARRY SCHNEIDERMAN

EDITOR, *The American Jewish Year Book***GENERAL**

The activities of the American Jewish community during 1939 followed in large measure the pattern of the previous years since the rise of Nazism in Germany. These activities may be briefly summarized as the mobilization of material resources to cope with the emergencies created by Nazi persecution, a closer study of, and concentration on, overseas conditions both in Europe and Palestine, and efforts to cope with hostile agitation at home resulting largely from agitation inspired or encouraged by the Nazi examples. At the same time Jewish organizations continued their activities in every field of communal endeavor—religious, social, Zionist, and cultural. In fact, the necessity for special emphasis on overseas relief and domestic exigencies demanded and resulted in greater cooperation and coordination of all community effort.

**GERMAN PERSECUTIONS**

Certain events abroad conditioned much of the activity of the Jewish community in the United States. The year witnessed an intensification in the persecution of the Jews of Germany. The massacres and riots of Nov. 10, 1938 and the imposition of the 1,000,000,000-mark fine marked the culmination of six years of persecution. Increasing thousands of Jews, uprooted from their homes, had to be provided for, partly by the generosity of neighboring countries, but chiefly by Jewish philanthropy. The dismemberment of Czecho-Slovakia in March, 1939 brought additional hundreds of thousands of Jews under the Nazi regime. But the most tragic event of the entire year was the conquest and partition of Poland. These events dissolved the largest and oldest Jewish community in the world and sealed the doom of the 1,500,000 Jews who resided in the sections of Poland

under German occupation. The maltreatment of the population of this territory at the hands of Nazi military and civil forces must be the subject of a separate account. However, with an almost insuperable refugee problem already crying for solution, this added tragedy imposed still greater responsibilities upon the Jews of the United States.

**FINANCING THE REFUGEE SERVICE**

Responding to the urgings of local community leaders, the American Jewish Joint Distribution Committee, the United Palestine Appeal, aid the National Coordinating Committee Fund, Inc. (supporting the National Refugee Service which deals with refugee problems in the United States) opened discussions which resulted in the formation of the United Jewish Appeal for Refugees and Overseas Needs for 1939 and the inauguration of a campaign for \$20,000,000. The response from the Jewish communities was gratifying. By the end of the first six months the U. J. A. reported pledges of approximately \$14,000,000. Although the final figures are not known at this writing, it was announced at the close of the year and of the campaign that 3,200 Jewish communities throughout the country had responded, as compared with a total of 1,900 communities which had contributed in 1938.

The program of the Joint Distribution Committee also underwent considerable expansion in view of the unprecedentedly grave needs. At its 25th annual meeting in Chicago on Dec. 2-3, Joseph C. Hyman, executive vice-chairman, reported that the J.D.C. had appropriated \$10,500,000 in 1939 for all phases of its work. Reporting on the emergency relief extended by the J.D.C. in Poland after the Nazi invasion, Mr. Hyman revealed that it was the only organiza-



tion which was able to bring help to the Jews of Poland. Other Jewish organizations, such as the World Ort Union (organization for the retraining of European victims of persecution) and the Hebrew Sheltering and Immigrant Aid Society (HIAS) also announced the expansion of their organizations to meet the new emergencies in Europe.

## PALESTINE

American Jews also turned their attention to Palestine, especially during the first half of the year. It was during this period that the British-Arab-Jewish parallel round table conferences took place in London (February), and the announcement of a new British policy *vis-a-vis* Palestine was set forth in a White Paper (May). Jews were deeply shocked and disappointed by the decision of the British Government to create an Arab dominated Palestine. They did not, however, lose hope in the future of a Jewish homeland in Palestine, continuing unstintingly their support of Zionist activities. Rabbi Abba Hillel Silver, chairman of the United Palestine Appeal, announced in September that the United Palestine Appeal had made available over \$3,000,000 to Palestine in the first nine months of 1939. Americans also participated in the sessions of the World Zionist Congress in Geneva in August.

## HAVEN FOR REFUGEES IN DOMINICA

A concrete and encouraging manifestation of interest in the refugee problem was the sessions in Washington of the officers of the Intergovernmental Refugee Committee, called by President Roosevelt, in conjunction with the President's Advisory Committee on Refugees. At a series of meetings beginning Oct. 17, the Committees discussed plans for providing permanent domicile for the 200,000 to 300,000 refugees from Greater Germany, now scattered in various European countries. This step was urged by the President, as the short-range program in contrast to his proposed long-range program of finding suitable havens for anticipated millions of

refugees from the present war. The latter program, however, was dismissed by the Committee as outside of its scope. An important aftermath of the conference was the offer of the Dominican Republic to open its doors to a limited number of refugees. This offer was officially communicated on Oct. 19 by Andres Pastoriza, the Dominican Minister in Washington, to James N. Rosenberg, chairman of the American Jewish Joint Agricultural Corporation. It agreed to permit immediate permanent immigration to the Dominican Republic of 500 refugee families, without the customary bond of \$500 per person. At the close of the year, Mr. Rosenberg left for Ciudad Trujillo to sign the contract between that Government and a corporation formed to prosecute the venture. Mindanao Island, in the Philippines, was also foreseen by the Intergovernmental Committee as a suitable place of refugee settlement in the near future, and Dr. Stanton Youngberg was engaged by the Refugee Economic Corporation in December to direct the settlement of an initial group of 600 to 800 refugees on that island.

## CONDEMNATION OF NAZI-SOVIET PACT

In common with most of their fellow citizens, Jews were profoundly shocked at the conclusion of a non-aggression pact between Nazi Germany and Soviet Russia. This event and the close collaboration between the two powers in the Nazi invasion of Poland were emphatically condemned by Jewish organizations and the Jewish press, which denounced the Communist regime and reaffirmed the traditional belief of the Jewish masses in democracy. A special conference of representatives of the most important Jewish labor organizations in the United States, including the United Hebrew Trades, the Workmen's Circle, the Jewish National Workers' Alliance, the Poale-Zion-Zeire Zion, the Jewish Labor Committee, and others issued a manifesto denouncing the Pact and expressing unalterable opposition to Communism and Fascism. The invasion of Fin-



## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

land by Soviet Russia as well as Nazi barbarism in Poland were bitterly denounced at a mass meeting held Dec. 13, sponsored jointly by the American Jewish Congress and the Jewish Labor Committee.

The normal and peaceable relations between Americans of Christian and Jewish faiths were disturbed by the activities of anti-Jewish movements, which were widely publicized during the previous year. As a result of the increasing boldness and virulence of their agitation, Jew-baiting groups and individuals were more disturbing than usual to the Jewish and general community. This was especially true of the large urban centers. The Nazi-Soviet Pact may be said to be a turning point in the spread and progress of anti-Jewish agitation. By demonstrating the absurdity of the alleged Jew-Communist link, the most important and the most persistently cultivated of the many falsehoods spread by the Jew-baiters, the Pact may be said to have removed the underpinnings from their propaganda structure. It also revealed the complete insincerity and truculence of the Nazi and Communist ideologies and discredited their counterparts as well as sympathizers in this country. As a result there appears to have been a marked decrease in anti-Jewish agitation during the last quarter of 1939.

### DECLINE IN ANTI-JEWISH AGITATION

Another factor responsible for the decline in the activities of anti-Jewish organizations and individuals was the series of disclosures made by the Dies Committee (House Committee Investigating Un-American Activities) as a result of its investigations during the year, and the action against subversive groups taken by local and Federal law-enforcement agencies. The Dies Committee revealed that the German-American Bund and native anti-Semitic groups were agents or tools of Nazi Germany and were attempting to set up a similar dictatorship in this country, and that the majority of them were using their anti-Semitism as a means of obtain-

ing money from the misguided and the gullible. The disclosure that many of the agitators had criminal records, that others, such as Fritz Kuhn, leader of the German-American Bund; James Wheeler-Hill, his associate; William Dudley Pelley, head of the Silver Shirts; Allen Zoll, self-styled American Nationalist leader; and lesser agitators in New York, Philadelphia, and Chicago, had been convicted or were under arrest as common criminals, served to disgust Americans and to weaken greatly the effectiveness of anti-Jewish agitation.

There appears to be no doubt that the utterances of Father Charles E. Coughlin of Detroit were largely responsible for this agitation. The anti-Jewish attacks broadcast by Father Coughlin toward the close of 1938 and during the early months of 1939 had evoked bitter condemnation from Catholics and Protestants, as well as Jews, many of whom pointed to the distortions and falsehoods in his addresses and to their obvious indebtedness to Nazi or other prejudiced sources. Father Coughlin continued these attacks in his weekly magazine *Social Justice*, in which he also denounced the American democratic form of government as Bolshevik, defended Nazism and Fascism, and advocated a "Christian" Corporative system of government. He also appealed for the formation in every city of militant "Christian Front" groups to carry out his principles of "Social Justice," urging them to employ force, if necessary, in order, as he put it, to save America from communism.

The repercussions of Father Coughlin's activities were strongly felt in some of the large metropolitan centers, especially New York City, where the activities of the priest's sympathizers were featured by open denunciations of Jews. They frequently resulted in actual disturbances and disorders. The "Christian Front" received nationwide notice when, on Jan. 17, 1940, the Federal Bureau of Investigation announced the arrest of 17 of its leaders on the charge of plotting to overthrow the United States Government.

## JUDAISM AND JEWISH COMMUNAL AFFAIRS

### EFFORTS FOR GOODWILL AND COOPERATION

The agitation of Jew-baiters and other anti-democratic forces was more than offset by the greatly expanded activities of persons and groups seeking to promote good will between Jews and Christians and to strengthen democratic institutions. In fact, a major trend of the year was the growing concern felt by thinking people everywhere over the necessity for combating the disintegrating propaganda of un-American groups and for further amity and cooperation among persons of all faiths.

Chief among these groups was the National Conference of Christians and Jews, which during the year underwent a considerable expansion in program and was able to reach millions of people throughout the country with its message of Americanism through religious tolerance and good will.

A significant development in the field of intergroup relations was the formation of new organizations to combat doctrines of intolerance and group hatred and to protect democratic ideals. Among the new organizations in the field were the Council Against Intolerance in America, whose co-chairmen are Senator Warren Barbour of New Jersey, George Gordon Battle of New York, and William Allen White, distinguished editor of Wichita, Kansas; and the Committee of Catholics for Human Rights, founded in June by a group of leading Catholic citizens of New York City, clerical as well as lay. The major activity of this new Committee, which was soon expanded by the organization of similar regional groups in other cities, was the publication of *Voice*, a popular newspaper which sought to offset among Catholics the activities of Father Coughlin and the "Christian Front." Other organizations of Catholics and virtually every important Protestant communion also took vigorous and unequivocal positions, in the form of resolutions and other statements, in condemnation of anti-Semitism.

### RELIGIOUS ACTIVITIES AND DISCUSSIONS

The concern of the Jewish community with events at home and abroad was reflected in the discussions and activities of the religious bodies, rabbinical and congressional, during the period under review. Among the more significant of the subjects discussed at their annual deliberations were: the function of religion in a democracy, emphasis on the leadership of the synagogue in Jewish communal affairs, inter-synagogue cooperation for the solution of the problems facing the Jewish community, and plans for the dissemination, under religious auspices, of correct information about Jews and Judaism. The organizations also reaffirmed during the year their adherence to American democracy and their abhorrence of Nazism, Fascism, and Communism.

The organization of a new affiliate, National Federation of Temple Youth, was announced at the 36th Council of the Union of American Hebrew Congregations (Reform), in Cincinnati, Jan. 17-19, 1939, jointly with its older affiliates, the National Federations of Temple Brotherhoods and Sisterhoods. An outstanding activity of the Union during the year was its Laymen's Tour of the United States and Canada, April 5-24. The Tour stressed the supremacy of the humanitarian and religious heritage of Judaism and its value to democracy, and was part of the Union's effort to inaugurate a Ten-Year Program of Greater Service to Judaism and Democracy.

Calls to combat un-American and irreligious activities were also issued by the Central Conference of American Rabbis (Reform), at its 50th annual convention in Washington on June 13, 1939, and at meetings of the organizations of the Conservative and Orthodox rabbinical and congregational bodies. Impetus to religious education was given by the announcement of a gift of \$1,000,000 to the Jewish Education Committee by the Friedsam Foundation, to be devoted to the Jewish youth of New York City, and by the appeals in December of conservative and orthodox bodies for the strengthening of re-

## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

ligious observance and education by Jewish communities.

The three wings of religious Judaism in the United States, Orthodox, Conservative and Reform, united in hailing President Roosevelt's action in December in calling for the co-operation of the forces of religion toward the restoration of peace and the alleviation of suffering; and, particularly in his choice of Dr. Cyrus Adler as the representative of religious Jewry in America. Dr. Adler, the president of the Jewish Theological Seminary of America and of Dropsie College for Hebrew and Cognate Learning, is recognized as one of the community's most revered leaders. In acknowledging the President's letter of Dec. 23, Dr. Adler stressed Israel's age-old mission of peace and offered to convey the President's message to the various rabbinical associations for transmission to their congregations. Together with Dr. George A. Buttrick, president of the Federal Council of Churches of Christ in America, Dr. Adler conferred with President Roosevelt in Washington on Dec. 27.

### **SOCIAL WELFARE**

One of the most significant trends in the field of social welfare was the increase in community councils in order to cope on a unified basis with the greater needs at home and abroad. There was also a growth in the number of local fund-raising bodies, affiliated with the Council of Jewish Federations and Welfare Funds. According to H. L. Lurie, executive director of the Council, of the year 1938 saw a more rapid growth of the Council than in any previous year since its organization in 1932. A total of 40 local agencies in 30 cities joined the Council in 1938. In February, 1939, the Council reported that it had over 150 member bodies representing federations, welfare funds, and community councils in 122 cities in the United States and Canada.

Problems facing Jewish social service workers were also discussed at the 31st National Conference of Jewish Social Welfare, in Buffalo, June 14-17. One of the concrete achievements of the Conference was the formation of

a Jewish Occupational Council to study the problem of economic adjustment of American Jews. This Council is to be under the direction of Dr. Albert Abrahamson, on leave of absence from his position as associate professor of economics at Bowdoin College.

In order to meet the growing and increasingly complex problem of assistance to refugees entering the United States, the National Coordinating Committee for Aid to Refugees and Emigrants Coming From Germany, organized in 1934, underwent in June and July, 1939, a complete reorganization in both structure and program. It was transformed from a coordinating body to a functional agency to deal with every phase of assistance to refugees in the United States, including their distribution throughout the country and their occupational retraining. The Committee's name was changed to National Refugee Service, Inc., and Prof. William Haber of the University of Michigan became its executive director.

The increased interest in and support of Jewish organizations, especially those engaged in various forms of social welfare work, was reflected in the report of the B'nai B'rith, made public at the annual meeting of its executive committee in Washington on Jan. 29, 1939. At this meeting, Maurice Bisgyer, executive secretary, revealed a record-breaking paid-up membership of 64,000 organized in 512 lodges in the United States and Canada. This represented an increase of 27 per cent over 1937, and brought the total membership of B'nai B'rith and its affiliates to over 100,000.

### **ZIONISM**

At its 25th annual convention, held in New York Oct. 25-29, Hadassah, Women's Zionist Organization, pledged itself to "full-hearted cooperation" with the Palestine Jewish community. A concrete manifestation of its keen interest in Palestine was the record budget of \$1,150,000 which it adopted for 1940, to be applied to Palestine land reclamation, the Youth Aliyah Movement (transfer of German refu-



gee children to Palestine), hospitalization and public health, and child welfare. At the same time, Hadassah also adopted a program, in the form of a course, "Jewish Survival in the World Today," for the education of its 85,000 members in Jewish and American traditions and ideals. One of the most notable of the Hadassah activities during the year was the nationwide celebrations, in May, sponsored jointly with the American Jewish Physicians Committee, marking the opening, in Jerusalem, of the \$1,000,000 Rothschild-Hadassah University Hospital.

The official dedication on May 28, 1939 of the Jewish Palestine Pavilion at the New York World's Fair was another significant activity sponsored by American Zionists. The first Palestine pavilion ever erected at an international exposition in the United States, this structure was built for the purpose of depicting the achievements of the Jews in Palestine.

## PROTECTIVE ORGANIZATIONS AND ACTIVITIES

The previous review referred to the formation of the General Jewish Council by the four national organizations engaged in the defense of civil and religious rights of Jews, namely: the American Jewish Committee, the American Jewish Congress, B'nai B'rith, and the Jewish Labor Committee. The first year of the existence of the Council was marked by constructive activity on the part of the constituent members in developing common methods of dealing with anti-Semitism, in eliminating duplication of effort, and in coordinating their respective activities. After the outbreak of the war in September, the Council gave renewed study to the possibilities of even closer cooperation and more intensive coordination.

On Feb. 5, the history and contributions of the Jews in America were

dramatized in a program broadcast over 106 stations of the Columbia Broadcasting System. This was one in a series of 26 weekly programs entitled "Americans All—Immigrants All" depicting the contributions to American life of the religious and ethnic stocks in the United States. It was sponsored by the United States Office of Education of the Department of the Interior, in cooperation with the Service Bureau for Inter-Cultural Education. On April 20, the series received the annual award of the Women's National Radio Committee as "the most original and informative" radio program of the year.

On Aug. 20, the ancient Touro Synagogue of Newport, R.I. played a prominent part in connection with the commemoration of the 300th anniversary of the founding of Newport and the establishment of religious and civil liberty on the American continent. The ceremonies at the synagogue, founded in 1658, and now the oldest Jewish house of worship in the United States, were featured by the reenactment of George Washington's famous address on civil and religious liberty, delivered during his visit to the synagogue in 1790, by the lineal descendants of Washington and of Moses Seixas—W. Selden Washington and Edward Jonas Phillips.

## NEW JEWISH ENCYCLOPEDIA

A new Jewish encyclopedia made its appearance during the year. On Dec. 26 the first volume of the *Universal Jewish Encyclopedia*, a projected popular ten-volume English compendium of information on Jews and Judaism, was published, forthcoming volumes to be issued at intervals. The encyclopedia is being prepared by a board of editors including Rabbi Isaac Landman, editor-in-chief; Louis Rittenberg, executive and literary editor; and a large number of leading scholars.



## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

### PERIODICAL PUBLICATIONS

---

- |  |   |
|--|---|
| <i>Advance</i> (Congregational)<br>14 Beacon Street, Boston.             | <i>Christian Register</i> (Unitarian)<br>25 Beacon Street, Boston.                  |
| <i>America</i> (Jesuit)<br>53 Park Place, New York City.                 | <i>Churchman</i> (P.E.)<br>425 Fourth Ave., New York City.                          |
| <i>American Hebrew</i><br>48 West 48th Street, New York City.            | <i>Church Management</i><br>East 6th Street at St. Clair, Cleveland, O.             |
| <i>Catholic Action</i><br>1312 Massachusetts Ave. N.W., Washington, D.C. | <i>Commonweal</i> (R.C.)<br>386 Fourth Ave., New York City.                         |
| <i>Catholic Review</i><br>21 West Franklin Street, Baltimore, Md.        | <i>International Journal of Religious Education</i><br>203 N. Wabash Ave., Chicago. |
| <i>Catholic World</i><br>401 West 59th Street, New York City.            | <i>Living Church</i> (P.E.)<br>1801 W. Fond du Lac Ave., Milwaukee, Wis.            |
| <i>Christendom</i><br>297 Fourth Ave., New York City.                    | <i>Lutheran Herald</i><br>425 S. Fourth Street, Minneapolis, Minn.                  |
| <i>Christian Advocate</i><br>150 Fifth Ave., New York City.              | <i>Presbyterian Tribune</i><br>70 Fifth Ave., New York City.                        |
| <i>Christian Century</i><br>95 Madison Ave., New York City.              | <i>Religion, A Digest</i><br>2401 Military Road, Arlington, Va.                     |
| <i>Christian Herald</i><br>419 Fourth Ave., New York City.               | <i>Watchman-Examiner</i> (Baptist)<br>23 East 26th Street, New York City.           |
| <i>Christian Leader</i> (Universalist)<br>178 Newbury Street, Boston.    |   |

### COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

---

#### NATIONAL CHURCHES

- |   |  |
|---|--|
| AMERICAN BAPTIST HISTORICAL SOCIETY,<br>Chester, Pa.  | GENERAL CONFERENCE OF SEVENTH-DAY ADVENTISTS, 6840 Eastern Ave., N.W., Takoma Park, Washington, D.C. |
| AMERICAN UNITARIAN ASSN., 25 Beacon St., Boston, Mass.  | GENERAL COUNCIL OF THE PRESBYTERIAN CHURCH IN THE U.S.A., 156 Fifth Ave., New York City.             |
| BOARD OF DIRECTION OF THE GENERAL SYNOD OF THE REFORMED CHURCH IN AMERICA, 25 E. 22nd St., New York City. | NATIONAL LUTHERAN COUNCIL IN AMERICA, 39 E. 35th St., New York City.                                 |
| CHRISTIAN SCIENCE CHURCH, 11 W. 42nd St., New York City.  | NATIONAL SPIRITUALIST ASSN., 600 Penn Ave., S.E., Washington, D.C.                                   |
| CONGREGATIONAL CHRISTIAN GENERAL COUNCIL, 287 Fourth Ave., New York City.                                 | NORTHERN BAPTIST CONVENTION, 152 Madison Ave., New York City.  |
| FREE CHURCH OF AMERICA, 25 Beacon St., Boston, Mass.  | SOCIETY FOR ETHICAL CULTURE OF NEW YORK, 2 W. 64th St., New York City.                               |
| FREETHINKERS' OF AMERICA, INC., 317 W. 34th St., New York City.   | THEOSOPHICAL SOCIETY IN AMERICA, Wheaton, Ill.   |
| FRIENDS' GENERAL CONFERENCE OF THE RELIGIOUS SOCIETY OF FRIENDS, 1515 Cherry St., Philadelphia, Pa.       | UNION OF AMERICAN HEBREW CONGREGATIONS   |

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

GATIONS, Merchants Bldg., Cincinnati, Ohio.  
 UNION OF ORTHODOX JEWISH CONGREGATIONS OF AMERICA, Amsterdam Ave. and 186th St., New York City.  
 UNITED LUTHERAN CHURCH IN AMERICA, 39 E. 35th St., New York City.  
 UNITED SYNAGOGUE OF AMERICA, Broadway and 122nd St., New York City.  
 UNIVERSALIST GENERAL CONVENTION, 16 Beacon St., Boston, Mass.  
 VEDANTA SOCIETY, 34 E. 71st St., New York City.  
 VOLUNTEERS OF AMERICA, 34 W. 28th St., New York City.

### INTERNATIONAL ORGANIZATIONS

ASSOCIATION FOR THE PROMOTION OF CHRISTIAN UNITY, Mission Bldg., Indianapolis, Ind.  
 BAPTIST WORLD ALLIANCE, Bates College, Lewiston, Me.  
 CENTRAL BUREAU OF EVANGELICAL CHURCHES IN EUROPE, 297 Fourth Ave., New York City.  
 COMMITTEE ON FRIENDLY RELATIONS AMONG FOREIGN STUDENTS, 347 Madison Ave., New York City.  
 ECUMENICAL METHODIST CONFERENCE, 720 Omaha Bank Bldg., Omaha, Neb.  
 INTERNATIONAL ASSN. OF DAILY VACATION BIBLE SCHOOLS, 297 Fourth Ave., New York City.  
 INTERNATIONAL ASSOCIATION FOR THE PROMOTION OF LIBERAL CHRISTIANITY AND RELIGIOUS FREEDOM, 25 Beacon St., Boston, Mass.  
 INTERNATIONAL CONGREGATIONAL COUNCIL, 287 Fourth Ave., New York City.  
 INTERNATIONAL SOCIETY OF CHRISTIAN ENDEAVOR, 41 Mt. Vernon St., Boston, Mass.  
 LUTHERAN WORLD CONVENTION, 39 E. 35th St., New York City.  
 NEAR EAST COLLEGE ASSOCIATION, INC., 30 Rockefeller Plaza, New York City.  
 RELIGIOUS EDUCATIONAL ASSOCIATION, 59 E. Van Buren St., Chicago, Ill.  
 UNIVERSAL CHRISTIAN COUNCIL ON LIFE AND WORK, 297 Fourth Ave., New York City.  
 WESTERN SECTION OF ALLIANCE OF REFORMED CHURCHES THROUGHOUT THE WORLD HOLDING THE PRESBY-

TERIAN SYSTEM, 226 W. Mowry St., Chester, Pa.

WORLD CONFERENCE FOR INTERNATIONAL PEACE THROUGH RELIGION, 70 Fifth Ave., New York City.

WORLD STUDENT CHRISTIAN FEDERATION, 347 Madison Ave., New York City.

WORLD SUNDAY SCHOOL ASSN., 51 Madison Ave., New York City.

### INTERCHURCH ORGANIZATIONS

AMERICAN BIBLE SOCIETY, Park Ave. and 57th St., New York City.

AMERICAN SUNDAY SCHOOL UNION, 1816 Chestnut St., Philadelphia, Pa.

AMERICAN TRACT SOCIETY, 7 W. 45th St., New York City.

CHAPLAIN'S AID ASSN., 401 W. 59th St., New York City.

CHRISTIAN CO-OPERATIVE FELLOWSHIP IN NORTH AMERICA, 5757 University Ave., Chicago, Ill.

CHRISTIAN UNITY FOUNDATION, 70 Fifth Ave., New York City.

CHURCH PEACE UNION, 70 Fifth Ave., New York City.

COMMUNITY CHURCH WORKERS OF U.S.A., 77 W. Washington St., Chicago, Ill.

CONFERENCE OF THEOLOGICAL SEMINARIES AND COLLEGES IN THE U.S.A. AND CANADA, Gettysburg, Pa.

EPWORTH LEAGUE OF THE METHODIST EPISCOPAL CHURCH, 740 Rush St., Chicago, Ill.

FEDERAL COUNCIL OF THE CHURCHES OF CHRIST IN AMERICA, 297 Fourth Ave., New York City.

FELLOWSHIP OF CHRISTIAN CO-OPERATION, 2929 Broadway, New York City.

FREE CHURCH OF AMERICA, 25 Beacon St., Boston, Mass.

NATIONAL COUNCIL OF PROTESTANT EPISCOPAL CHURCHES, 281 Fourth Ave., New York City.

NATIONAL RELIGION AND LABOR FOUNDATION, 304 Crown St., New Haven, Conn.

### AUXILIARY ORGANIZATIONS

CATHOLIC CHURCH EXTENSION SOCIETY OF THE U.S.A., 306 N. Michigan Ave., New York City.

CATHOLIC GUARDIAN SOCIETY, 485 Madison Ave., New York City.

CATHOLIC PROTECTIVE SOCIETY, 477 Madison Ave., New York City.

## XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

CHURCH LEAGUE FOR INDUSTRIAL DEMOCRACY, 135 Liberty St., New York City.

COMMUNITY CHURCH WORKERS OF THE U.S.A., THE, 1302 Chicago Temple, 77 W. Washington St., Chicago, Ill.

LORD'S DAY ALLIANCE, 156 Fifth Ave., New York City.

NATIONAL CONFERENCE OF JEWS AND CHRISTIANS, 300 Fourth Ave., New York City.

WOMAN'S CHRISTIAN TEMPERANCE UNION, 1730 Chicago Ave., Evanston, Ill.

WOMAN'S NATIONAL SABBATH ALLIANCE, 156 Fifth Ave., New York City.

YOUNG MEN'S CHRISTIAN ASSN., 347 Madison Ave., New York City.

YOUNG MEN'S HEBREW ASSN., 200 Fifth Ave., New York City.

YOUNG WOMAN'S CHRISTIAN ASSN., 600 Lexington Ave., New York City.

YOUNG WOMAN'S HEBREW ASSN., 31 W. 110th St., New York City.

### RELIGIOUS PUBLICATIONS

AMERICAN BAPTIST HISTORICAL SOCIETY, Upland Ave., Chester, Pa.

AMERICAN BAPTIST PUBLICATION SOCIETY, 1701 Chestnut St., Philadelphia, Pa.

AMERICAN BIBLE SOCIETY, Bible House, New York City.

AMERICAN TRACT SOCIETY, 7 W. 45th St., New York City.

CHICAGO TRACT SOCIETY, 440 S. Dearborn St., Chicago, Ill.

GIDEONS, 202 S. State St., Chicago, Ill.

NATIONAL TESTAMENT AND TRACT

LEAGUE, 200 Kellogg Bldg., Washington, D.C.

POCKET TESTAMENT LEAGUE, 156 Fifth Ave., New York City.

RELIGIOUS EDUCATION ASSN., 59 E. Van Buren St., Chicago, Ill.

SOCIETY FOR THE PROPAGATION OF THE FAITH, 462 Madison Ave., New York City.

### MISSIONARY

AGRICULTURAL MISSIONS FOUNDATION, 156 Fifth Ave., New York City.

AMERICAN BOARD OF COMMISSIONERS FOR FOREIGN MISSIONS, 14 Beacon St., Boston, Mass.

AMERICAN MCALL ASSN., 112 E. 16th St., Philadelphia, Pa.

AMERICAN MISSION TO LEPERS, 156 Fifth Ave., New York City.

CHRISTIAN AND MISSIONARY ALLIANCE, 260 W. 44th St., New York City.

COMMITTEE OF REFERENCE AND COUNCIL, 156 Fifth Ave., New York City.

COUNCIL OF WOMEN FOR HOME MISSIONS, 297 Fourth Ave., New York City.

HOME MISSIONS COUNCIL, 297 Fourth Ave., New York City.

INTERNATIONAL MISSIONARY COUNCIL, 156 Fifth Ave., New York City.

MISSIONARY EDUCATION MOVEMENT OF THE UNITED STATES AND CANADA, 150 Fifth Ave., New York City.

NATIONAL COUNCIL OF JEWISH WOMEN, 1819 Broadway, New York City.

NEAR EAST RELIEF, 2 W. 46th St., New York City.

STUDENT VOLUNTEER MOVEMENT FOR FOREIGN MISSIONS, 254 Fourth Ave., New York City.

WOMAN'S UNION MISSIONARY SOCIETY, 67 Bible House, New York City.

PART SIX  
SCIENCE—PRINCIPLES AND APPLICATION  
DIVISION XVIII  
MATHEMATICS AND ASTRONOMY

MATHEMATICS

BY CHARLES N. MOORE

PROFESSOR, UNIVERSITY OF CINCINNATI

---

**AMERICAN MATHEMATICAL  
SOCIETY**

**Meetings.**—During 1939 the American Mathematical Society met in New York City in February and October; in Chicago, in Durham, N.C., and at Stanford University, in April; in Madison, Wis., in September; in Columbia, Mo., in Pasadena, Calif., and in Columbus, O., in December.

**Invited Addresses.**—It is the custom of the Society, in connection with its meetings, to invite one or more speakers who have made noteworthy contributions in certain fields of mathematical research to give addresses summarizing recent progress in those fields. At the meeting in New York City in February Prof. R. P. Agnew of Cornell University addressed the Society on the topic: "Properties of generalized definitions of a limit." At the New York meeting in November Prof. J. J. Gergen of Duke University spoke on the subject: "Double Fourier Series." At the April meeting at Stanford University Prof. T. Y. Thomas of the University of California at Los Angeles, discussed the topic: "Embedding theorems in differential geometry." At Columbia, Mo., addresses were given by Prof. E. W. Chittenden of the University of Iowa and Prof. L. R.

Ford of Armour Institute of Technology on the respective subjects: "Topological functions" and "Projective transformations in two complex variables." At Pasadena Prof. C. B. Morrey, Jr., of the University of California, gave an address on the subject, "Existence and differentiability theorems for the solutions of variational problems for multiple integrals."

**Special Features of the Durham Meeting.**—This meeting was held in connection with the celebration of the centennial of the origin of Duke University. A special committee, acting jointly for the Society and Duke University, arranged a program of invited addresses. The speakers were Prof. A. B. Coble of the University of Illinois, Prof. Herman Weyl of the Institute for Advanced Study, and Prof. Norbert Wiener of Massachusetts Institute of Technology. Their respective topics were: "Configurations defined by theta functions," "Invariants," and "The ergodic theorem."

**Chicago Symposium.**—It has long been the custom, in connection with the spring meeting in Chicago, to hold a symposium on some important field of mathematical research, one or two invited speakers delivering the



principal addresses. The symposium at the April meeting was on the topic: "Rational methods in matrix equations," and the invited lecturer was Prof. M. H. Ingraham of the University of Wisconsin.

**Summer Meeting and Colloquium at Madison.**—In connection with the summer meetings of the Society it is the usual custom to have one or more series of Colloquium Lectures on important domains of mathematical investigation, delivered by invited speakers who are recognized experts in the fields. At the meeting in Madison Prof. M. H. Stone of Harvard University gave a series of lectures on the topic: "Convex bodies," and Prof. A. A. Albert of the University of Chicago gave another series on the subject: "Structure of algebras."

An important matter of business came before the Council of the Society at the Madison meeting. At the last International Mathematical Congress at Oslo in 1936 the invitation of the American delegation to hold the next Congress in 1940 in the United States had been accepted. Cambridge, Mass. had been selected as the place, and the work of planning and organizing was well under way. However, in view of the disturbed international situation, it seemed highly unlikely that it would be possible to proceed with the plans at this time, and the Congress was accordingly postponed. Mathematicians will recall that a similar situation arose at the time of the World War of 1914-1918. At the International Congress in Cambridge, England in 1912, the invitation of the Swedish delegation to hold the next Congress at Stockholm in 1916 was accepted. Needless to say, this plan also had to be abandoned, and a Scandinavian Mathematical Congress was substituted for the proposed International Congress.

**The Columbus Meeting.**—The meeting in Columbus was the one designated as the annual meeting of the Society and was the forty-sixth of that sequence. It was held in conjunction with the meetings of the American Association for the Ad-

vancement of Science, the Mathematical Association of America, and the National Council of Teachers of Mathematics. In connection with this meeting the fifteenth Josiah Willard Gibbs Lecture was delivered by Prof. Theodore von Kármán, director of the Daniel Guggenheim Aeronautical Laboratory of the California Institute of Technology. Prof. von Kármán spoke on the topic: "The engineer grappling with non-linear problems." This series of lectures was instituted by the American Mathematical Society in 1924 in honor of the distinguished mathematician and mathematical physicist, by whose name it is designated.

At a joint session of Section A of the American Association for the Advancement of Science, the American Mathematical Society, and the Mathematical Association of America, Prof. J. R. Kline of the University of Pennsylvania, vice-president of the A. A. A. S. and chairman of Section A, gave his retiring address on the topic: "The Jordan curve theorem." In addition there was an invited address by Prof. D. H. Lehmer on the subject: "The application of Bernoulli polynomials to some problems in Diophantine analysis."

**Research Papers.**—In addition to the various special lectures and invited addresses listed above, some 500 shorter papers dealing with various research problems were presented by members of the Society at its various meetings. Abstracts of such papers may be found in the official journal, the *Bulletin* of the American Mathematical Society, which contains also more detailed accounts of the meetings, written by the secretaries of the Society.

#### MATHEMATICAL REVIEWS

Through the munificence of two of the great Foundations, the American Mathematical Society finds itself in the fortunate position of having the financial backing to found a new international mathematical abstracting journal to be known as *Mathematical Reviews*. During the past quarter-century, while the United States and Canada have been gradually assum-

ing a more prominent part in mathematical research, there has been sentiment expressed from time to time among mathematicians that there should be an abstract journal sponsored by American organizations. But the doubts whether these organizations had the scientific and financial resources to spare caused the postponement of the undertaking. However, the rapid growth of American mathematical resources and the availability of funds have resolved these doubts, and it has been decided to proceed immediately.

At the annual meeting of 1938 the Council of the American Mathematical Society appointed a committee consisting of C. R. Adams (chairman), G. D. Birkhoff, A. B. Coble, Thornton C. Fry, Marston Morse, and G. T. Whyburn with power to proceed with the establishment of a new journal provided the finances could be assured for a period of five years and provided international co-operation could be obtained. After much correspondence and several meetings and after consulting representative mathematicians in all parts of the country, the committee decided on May 30, 1939, to proceed; this decision was later ratified by the Council and by the Board of Trustees of the Society. An executive subcommittee consisting of Oswald Veblen (chairman), Thornton C. Fry, and Warren Weaver was appointed to officiate in setting up the machinery to get the journal under way, and this group will function until the Society makes permanent arrangements for the direction of the journal. The Council at the September meeting took initial steps to change the by-laws of the Society so as to define the relationship and responsibility of the Society to the new journal.

It is confidently expected that the assumption of this important task will stimulate research and teaching. Cooperation from the great fraternity of mathematicians is assured. Several hundred people have signed petitions requesting that the journal be inaugurated. Meetings of groups in various parts of the country have been held to discuss the desirability of the

project and great interest has been evinced. Prominent mathematicians both here and abroad have given assurances that collaborators will be available in abundant numbers to carry on the journal at a high level.

The Carnegie Corporation has appropriated \$60,000 as a backlog for the new journal. The Rockefeller Foundation has made a gift of \$12,000 to cover some of the initial costs. Brown University is housing the project and aiding in the editorial work. The American Mathematical Society and the Mathematical Association of America are each starting off with a subsidy of \$1,000 for the first year. Annual subsidies are being sought from other organizations with prospects of success. Plans for the permanent financing of the project are also being considered.

The first number of *Mathematical Reviews* was expected to appear by early 1940; the material to be reviewed begins with the latter half of 1939. It is proposed to review all fields of pure mathematics and also those parts of applied mathematics and mathematical physics which are of pronounced interest to mathematicians. The new journal, which will be issued approximately once a month, will contain several thousand reviews annually and will run to approximately 800 large double-column pages, each page being equivalent to nearly two of the *Bulletin* of the American Mathematical Society. Professors J. D. Tamarkin and O. Neugebauer will be the first editors. A strong group of collaborators for the initial period is assured.

Partly with a view to aiding indirectly in the support of this journal, the Rockefeller Foundation has made a handsome gift to Brown University for an experiment in the dissemination of mathematical publications through the distribution of microfilm. This money is to be used to augment the mathematical library at the University, a collection which is already internationally known as outstanding. Out-of-print journals will be put on film and made available to mathematicians; rare books of general use will be filmed; on request from a sub-

## XVIII. MATHEMATICS AND ASTRONOMY

scriber to the new journal, any article reviewed will be sent on film or as film-print. This service will be extended to all parts of the world at a price not exceeding cost. It should be of greatest value to mathematicians located in the smaller universities and colleges and should be a factor in encouraging young men and women to continue with their investigations. This interesting experiment in the promotion of a new aid to learning should prove to be an asset not only to *Mathematical Reviews*, but also to American mathematics in general.

### MATHEMATICAL ASSOCIATION OF AMERICA

The Mathematical Association held a summer meeting in September, 1939, at Madison, Wis., in conjunction with the summer meeting of the American Mathematical Society to which reference has been made. It held its twenty-fourth annual meeting at Columbus, O., in December in conjunction with meetings of the American Association for the Advancement of Science, the American Mathematical Society, and the National Council of Teachers of Mathematics.

At the summer meeting in Madison, a program of invited addresses was presented. The speakers and topics were as follows: Prof. Marie J. Weiss of Vassar College, "Algebra for the undergraduate"; Prof. W. M. Whyburn of the University of California at Los Angeles, "Over and under functions as related to differential equations"; Prof. W. T. Reid of the University of Chicago, "Soap films and the calculus of variations"; Prof. A. J. Kempner of the University of Colorado, retiring presidential address, "The role of isomorphism in mathematics and in its applications"; Prof. E. W. Chittenden of the University of Iowa, "Report of the Committee on Tests."

At the annual meeting in Columbus there was a joint session with the American Association for the Advancement of Science and the American Mathematical Society, which has already been described in the report on the activities of the latter. There were further sessions devoted to a

program of invited addresses. Prof. W. B. Carver and Dr. T. C. Fry discussed the new journal, *Mathematical Reviews*, and papers on various mathematical topics were presented by Professors Henry Blumberg of Ohio State University, Saunders MacLane of Harvard University, and G. T. Whyburn of the University of Virginia, and Dr. E. F. Beckenbach of The Rice Institute.

In addition to the summer meeting and the annual meeting of the Association, 21 sectional groups of members, organized as sections of the Association in various portions of the country, held meetings during 1939. At each of these meetings papers on mathematical topics of interest to those whose professional activities are wholly or partly in the collegiate field were presented by various speakers chosen by the respective program committees.

### SYMPOSIUMS AND CONFERENCES

The third annual symposium at the University of Notre Dame was held in April on the general subject of metric geometry. Special papers in this field were presented by the following speakers: Prof. L. M. Blumenthal, University of Missouri; Dr. P. M. Pepper, University of Notre Dame; Prof. Marston Morse, Institute for Advanced Study; Prof. Karl Menger, University of Notre Dame; Prof. I. J. Schoenberg, Colby College; Prof. Emil Artin, University of Indiana; Dr. M. Sadowsky, Armour Institute of Technology; Dr. B. J. Topel, University of Notre Dame; Dr. A. N. Milgram, University of Notre Dame.

At the University of Chicago a Conference on the Calculus of Variations was held early in the summer quarter. The following speakers presented one or more addresses: Prof. Karl Menger, University of Notre Dame; Prof. E. J. McShane, University of Virginia; Prof. Tibor Radó, Ohio State University; Prof. Max Coral, Wayne University; Prof. Jesse Douglas, Massachusetts Institute of Technology; Prof. Marston Morse, The Institute for Advanced Study; Professors G. A. Bliss, L. M. Graves,



W. T. Reid, M. R. Hestenes, and Dr. H. H. Goldstine, of the University of Chicago.

# ANALYSIS

The introduction of the notion of spaces of more than three dimensions has led mathematicians to consider in recent years spaces with an infinite number of dimensions. The theory of such spaces has at times been of utility in the field of mathematical physics.

When the infinite number of dimensions is of the same type of infinity as that illustrated by the continuous variable, the elements of the space may be functions of certain classes. It then becomes a matter of importance to determine the manner in which important subsets of these classes may be characterized as portions of the complete space. In an article that appeared in the *Transactions* of the American Mathematical Society, C. R. Adams and J. A. Clarkson presented a study of certain subsets of Lebesgue spaces and determined their Borel type.

The so-called fundamental theorem of algebra states that every polynomial in the complex variable  $z$  vanishes for at least one value of  $z$  in the complex plane. This theorem is basic in the theory of equations.

Since the derivative of a polynomial is likewise a polynomial, it is natural to consider what relationship exists between the location of the vanishing points of a polynomial and the location of the vanishing points of its derivative. Quite a number of mathematicians have studied this problem, but the theory is still capable of development. In a paper in the *Transactions* of the American Mathematical Society Morris Marden added precision to certain results originally due to Kakeya. The latter showed that if  $p$  zeros of a polynomial were found in or on a certain circle, then at least  $(p-1)$  zeros of its derivative would lie in or on a concentric circle whose radius had a definite relationship to the radius of the first circle. Marden has succeeded in obtaining more precise knowledge

concerning the nature of this relationship.

The question of determining the flow of heat in a certain solid whose initial temperatures are known can be reduced to a problem in analysis. This problem involves finding a solution of a certain differential equation, which satisfies assigned boundary conditions. If the solid is a non-homogeneous bar and the initial temperatures are discontinued, the classical solution is not satisfactory in that its uniqueness has not been established. In a paper in the *American Journal of Mathematics* R. V. Churchill obtained alternative solutions which do not have this imperfection.

# ALGEBRA

There was considerable activity in this country in the field of "lattices," certain algebraic systems, important instances of which are the subgroups of a group and the planes of all dimensions in a projective space. The contributors to this field were G. Birkhoff, Dilworth, Halperin, MacNeille, Ore, Ward, and Wilcox.

Associative hypercomplex number systems which are not semi-simple were studied by Hall and Hopkins. Certain non-associative systems related to Lie groups were studied by Jacobson.

Application of the theory of lattices to group theory were given by Baer and Ore. Certain systems more general than groups were studied by a number of mathematicians. The unitary representations of the Lorentz group were considered by Wigner. A new book was published by Weyl containing many interesting new results on invariants and representations of groups.

The important paper by Zariski, referred to later under the heading of Algebraic Geometry, can also be classified as a paper in algebra. While the application is geometric, the methods are purely algebraic and fall in that field of algebra which may be referred to as the arithmetic theory of algebraic functions. Other interesting contributions to this field were made by MacLane, Muhly, and



Schilling. Related to it was MacLane's work on modular fields.

### GEOMETRY

**Theory of Measure.**—In elementary geometry, the length of the circumference of a circle is defined to be the limit of the perimeters of inscribed polygons. This infinition of length can easily be extended to many simple curves in a plane. However, when one attempts to attach a measure of length to very complicated sets of points, the elementary method breaks down, and other means must be used. One such method was devised by Caratheodory in 1914. His measure is very satisfactory in many respects, but it lacks certain desirable properties. For example, if  $A$  is a set of points and  $B$  and  $C$  are its projections on two perpendicular lines, it is useful to know that the square of the measure of  $A$  is at least equal to the square of the measure of  $B$  plus the square of the measure of  $C$ . For certain sets of points this is not true of Caratheodory measure. In a paper about to be published, A. P. Morse and J. F. Randolph have given a new method of defining length which has all the useful properties of Caratheodory measure and several others in addition. In particular the property mentioned above holds for any set in a plane when this new definition of measure is used.

**Algebraic Geometry.**—Algebraic geometry treats of the properties of configurations defined by means of algebraic equations. This subject achieved its most rapid growth near the end of the nineteenth century, after which it declined in popularity. In the last 15 years, however, the introduction of new methods has brought about a revival of interest in the problems of algebraic geometry. These new methods are purely algebraic in character; that is, they make no use of such geometrical notions as distance, continuity, etc. It is hoped that by their use it will be possible, first, to enlarge the scope of theorems already proved, and second, to solve some of the remaining unsolved problems. Among the many results al-

ready obtained in the first of these two groups, that given by O. Zariski in his paper, "The Reduction of the Singularities of an Algebraic Surface," which appeared in the *Annals of Mathematics*, is of prime importance. The problem here solved is to show that any algebraic surface, a two dimensional configuration defined by algebraic equations, can be altered in a systematic fashion so that its irregularities are "smoothed out." Since this theorem is usually taken as a starting point in the discussion of properties of surfaces, its importance can hardly be exaggerated. It is hoped that the methods used in this paper can be extended to prove the similar theorem for algebraic configurations of more than two dimensions. This would be a completely new result, as no one has as yet succeeded in making any simplification of these higher dimensional figures.

### STATISTICS

Many writers have attacked the problem of fitting straight lines when both variables are subject to error, but a common feature of the solutions proposed heretofore is the reliance on *a priori* assumptions (independent of the observations) regarding the relative magnitudes of the errors in the variables  $x$  and  $y$ . Abraham Wald (Columbia University and Cowles Commission for Research in Economics) has shown (July 1936, Cowles Commission Conference) that the fitted straight line can be determined provided one of the variables, say  $x$ , is such that  $N = 2m$  observations  $x_1, x_2, \dots, x_N$  can be drawn in such a way that  $x_1 - x_2$  does not approach zero with increasing  $N$ ,  $x_1$  being  $(x_1 + x_2 + \dots + x_m)/m$ , and  $x_2$  being  $(x_{m+1} + \dots + x_{2m})/m$ . The above proviso really does not seriously restrict the generality of the method. Wald has shown, furthermore, how to estimate the standard deviations of  $a$  and  $b$ , the sample estimates of the true slope and intercept,  $\alpha$  and  $\beta$  respectively, and has provided a test of significance of the analysis of variance type for the hypothesis that the estimated line  $y =$

## ASTRONOMY

ax b differs by sampling fluctuations only from the hypothetical line  $Y = \alpha x + \beta$ , in which  $\alpha$  and  $\beta$  have definite values. As is customary in all work of this sort, Wald assumes that the errors in the  $x$  values are uncorrelated among themselves, are uncorrelated with the errors in the  $y$

values, and that these latter are uncorrelated among themselves.

Some of the results Wald obtained are closely related to results given by R. G. D. Allen (London School of Economics) in a recent paper (*Economics*, May, 1939), but Wald's results were found independently.

## ASTRONOMY

By JOHN E. MERRILL

ASSISTANT PROFESSOR, HUNTER COLLEGE

### MCDONALD OBSERVATORY TELESCOPE

On May 5, 1939, the McDonald Observatory of the University of Texas on Mt. Locke was dedicated "to the most ancient and purest of the sciences." The observatory structure and its magnificent 82-inch reflecting telescope result from a bequest by William Johnson McDonald to the University amounting to nearly \$1,000,000. A plan of cooperation, to cover a period of 30 years, was worked out whereby the University of Texas devoted its fund to the construction and the University of Chicago provided the astronomical staff to operate the unit.

The design of the telescope embodies some radical changes from the conventional "English" type of mounting. The counterweight has been moved from its usual position at the end of a long declination axis supporting also the telescope tube itself, to a place far up the polar axis; this has made it possible to use a coudé optical train when desired, bringing the light down the hollow polar axis to a constant-temperature spectrograph room below the south pier, with a focal length of 155 feet. This is the first time that the coudé form has been used in this type of mounting.

The focal length of the primary mirror is 27 feet; it is planned to do part of the work at the primary focus, but probably the most of it at the Cassegrain focus a foot below the mirror cell, where a focal length of 92 feet will be attained.

The numerous D.C. motors for operating the telescope, dome, shutter and wind-curtain, can be controlled from any one of three stations in the dome. The main telescope drive is by a synchronous motor operating on current frequency-controlled by the McMath-Hulbert system.

The 82-inch aluminized Pyrex mirror is probably the most nearly perfect paraboloid ever achieved in large size; the tests show that the Hartmann Criterion T (the weighted mean diameter of the geometrical confusion disc in terms of one-hundred-thousandth of the focal length) is 0.05, indicating that the aberrations of this mirror are only two-fifths as large as the best one previously tested. The deviations of the surface from the true form amount to only 7 ten-millionths of an inch, one-thirtieth of a wave-length of visual light. The Warner and Swasey companies are the builders, the late Dr. Burrell was responsible for part of the design, C. A. R. Lundin figured the mirror, and Prof. J. S. Plaskett was in general charge of both design and construction, representing the universities.

### TELESCOPE MIRRORS

H. H. Plaskett has published a description of the new solar tower telescope at Oxford. All five mirrors are of fused quartz in order to ensure that temperature effects in solar observation would be negligible. The principle mirrors of the telescope proper are a paraboloid of  $12\frac{1}{2}$  inches and a hyperboloid of five

inches clear aperture, giving an equivalent focal length of 73 feet. The final tests on the complete optical train show that the zonal aberration and astigmatism are negligible. The design and construction were by Sir Howard Grubb Parsons.

J. G. Baker has suggested a modification of the Schmidt camera which shows promise of making this type of instrument even more popular than it is now. A principal drawback to the present Schmidt is that the focal plane is strongly curved. Baker shows that a convex spherical mirror of practically the same radius of curvature as the concave primary, placed about one-third of the way from the primary to the correcting plate, will produce near the primary a practically flat focal field. A second advantage of this new type lies in the greater rigidity of the tube, which will be only three-fourths as long as in the standard Schmidt camera.

R. C. Williams has investigated the present condition and probable useful life of the films of aluminum and of chromium-aluminum in use on astronomical mirrors. It appears that the probable useful life of either type is from  $2\frac{1}{2}$  to five years, depending on several factors, notably condensation of moisture on the surface. If there exists an accumulation of dust and dirt which can be dissolved by the moisture and thus become chemically active the aluminum then "freckles" in small areas.

#### SOLAR SYSTEM

H. W. Babcock has photographed the spectrum of the night sky with exposures of 40-60 hrs using an aluminum-on-glass grating. He confirms the presence and identification of lines found by Cabannes and others, and in particular finds that the D lines of sodium increased about five-fold in intensity relative to other spectral features between Aug. 1, and Oct. 31, 1938. Franck and Mrs. Riecke have shown that the sodium may be the result of photo-dissociation by ultra-violet solar radiation of ordinary salt carried up from the oceans. This removes the difficulty previously recognized of having

emission lines in the night-sky spectrum without the corresponding absorption lines showing in the spectra of celestial bodies, since the necessary concentration will be much lower.

The eclipse photographs of June 8, 1937, by Major A. W. Stevens have been subjected to an optical study by O'Brien, Stewart and Aronson with the hope of determining whether the nearly-circular luminosity shown on them had its origin high in the earth's atmosphere or was truly a solar corona. Isophote contours were constructed from the original negatives and compared with those from photographs of artificially-produced eclipses. The three investigators thus show that the circularity of the solar corona is probably real. They note that two earlier observers have observed similar shapes and show furthermore that the spiked or streamer-like appearance of the corona as viewed in the sky or on a photograph is probably a physiological effect of the presence at places within the corona of abrupt but really slight variations in brightness.

Sun-spot activity was at a high level throughout 1939, with a score of spot groups achieving such size as to be naked-eye objects. Although spot-maximum was supposedly passed in 1937 the average latitude of spots is just at the end of 1939 approximating that usually found at the maximum phase of the cycle. Terrestrial effects such as magnetic storms and aurorae have been plentiful; the Mt. Wilson observers remark that in August so many sun-spot groups were visible that it was impossible to say which were individually associated with the terrestrial activity.

Stewart and Panofsky have investigated the Wolf sunspot numbers from 1755 on in an attempt to determine an empirical mathematical form which will represent each cycle of spots independently by suitable choice of the parameters involved. The expression which they favor is  $N = F\theta^a e^{-b\theta}$ , where  $\theta$  is the interval in years after the beginning of the outburst,  $F$  is a scale factor to adjust the height of the spot-number curve,  $a$  is a pure number, and



*b* a damping constant. They show that all cycles since 1755 can be represented reasonably well by this form, although there remain small systematic deviations, as for instance in the time of maximum spot-numbers. This work strongly supports the view that, while undoubtedly there is one underlying cause for all sun-spot cycles, the individual cycle is to be regarded as one outburst following a general pattern, not as determined by the combination of several harmonic terms which can be evaluated from earlier or later cycles.

## COMETS

The year 1939 was usually productive so far as comets are concerned. Twelve in all were located; of these five were not predicted. During a part of November, seven comets were simultaneously observable!

Comet 1939a was discovered independently by Cosik in the U.S.S.R. and the famous American amateur Peltier, on Jan. 20, and became barely visible to the naked eye for a few days in early February. The tail, some 3° in length, was fan-shaped on the photographs, with a bright streak along the middle.

Comet 1939b was discovered by Vaisola at Turku, Finland, in the course of the asteroid-search program. It was a fifteenth magnitude object at discovery and would certainly have been missed except for its presence in the asteroid zone.

Comet 1939d was independently discovered by Jurlof of the U.S.S.R., Achmarof of the U.S.S.R., and Hassel of Norway the middle of April. On Waterfield's photographs of April 21 it showed a tail 9° long, the next night none at all, and by April 25 it had grown a new tail. Many observers reported the comet to have a strong blue-green hue. In addition to the three listed as co-discoverers, Smith of Alberta and Friend of California found the comet without previous knowledge of its existence. It is clear that the sweeping of the sky for comets is being carried on very actively by the amateurs.

Rigollet of France was the dis-

coverer of Comet 1939h, which turns out to have a period of 150 years and to be in all probability the comet discovered in 1788 by Caroline Herschel, sister and co-worker of the great Sir William.

The same Clarence Friend who so narrowly missed a comet medal for 1939d, receives one instead for his discovery on Nov. 1 of Comet 1939n.

The Pons-Winnecke Comet, rediscovered by Jeffers, was within 10,000,000 miles of the earth on July 2. It may never come so near again, because in 1942 it will pass very close to the massive planet Jupiter and will, it is predicted, have its orbit greatly altered.

Neither Borelly's Comet nor Comet Wolf II has been picked up in the photographic search. The reason for the non-appearance of the first is not known, but in the case of Comet Wolf perturbations of the orbit since the 1925 apparition have certainly been considerable, and the comet is probably lost.

On the theoretical side, Recht has investigated the records concerning all observed returns of Comet D'Arrest, 1851 II, and brought to light a puzzling situation. It has been known for many years that Encke's Comet shows a more or less continuous increase in orbital velocity and decrease in eccentricity of orbit; this has been ascribed to the presence of a tenuous resisting medium, which would cause the orbit to become smaller and the velocity therefore to increase. Recht's work shows, however, that the mean distance of D'Arrest's Comet from the sun (about 3½ times the earth's distance) has increased by an average amount of 15,000 miles per revolution and that the eccentricity of the orbit has likewise been increasing measurably. The cause is quite obscure, and other short-period comets must be carefully studied for possible similar behavior.

## STARS—GENERAL

Kuiper has combined all good existing determinations of the brightness of the sun with careful attention to their relative weights and finds



## XVIII. MATHEMATICS AND ASTRONOMY

therefrom that the present "best value" for the apparent photovisual magnitude is  $-26.84$  and for the absolute bolometric magnitude  $+4.62$ . Kuiper and W. W. Morgan independently ascribed the sun to spectral class dG2. Kuiper then proceeds to derive bolometric corrections for the various spectral types and finally to set up a scale of stellar effective temperatures based on the spectral type of the sun as dG2 and on Unsold's value of the solar effective temperature,  $5,710^\circ$ . The range is from  $10,700^\circ$  for an AO star to  $3,200^\circ$  for both giant and dwarf M2 stars. He carries the giant scale on down to  $2,600^\circ$  for gM8 but notes the need of further study on late M-type dwarfs to fix that part of the temperature scale. Kuiper's scale should be regarded as definitive and should be used in preference to the provisional one in the standard astronomy textbooks.

Wildt has shown that the presence of negative H ions must be taken account of in theories of stellar atmospheres. While in a gas composed of only one kind of atoms, temperatures high enough to ionize these atoms would automatically be high enough to dissociate any negative ions resulting from collision of an electron and a neutral atom, nevertheless in an atmosphere of two or more chemical elements of differing ionization potential some of the electrons released by ionization of the element of lower potential might attach themselves to the atoms of the element of higher ionization potential.

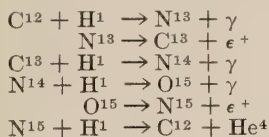
Wildt shows that the discontinuity at the Balmer limit, which is the most reliably-determined absolute characteristic of the stellar spectral background-line study, can be greatly reduced by the inclusion of the contribution to the opacity due to the negatively-charged hydrogen ions. The Russell-Pannekoek abundance ratio of  $H : \text{metals} = 1000 : 1$  then appears consistent with observations.

The problem of apsidal motion in the orbits of eclipsing binaries has been receiving some attention in the past few years because of the

importance of observations of such motion as a measure of the internal concentration of the component stars. Sterne has solved the problem of the secular motion of the apse for the case where the stars are assumed to be composed of compressible fluids and where the orbital period is long in comparison with the free harmonic periods of the components. The apsidal motion is definitely one of precession, and for a given model of system increases rapidly with the eccentricity of the system.

Sterne applies his equations to Y Cygni and four other eclipsing binary systems. He finds in three cases that the apsidal motions observed would be expected from systems whose components were, in three of the cases, polytropes of index 3, and in two cases of index somewhat higher. Since these two latter are systems in which the masses are not too certain, the whole investigation indicates the truly remarkable confidence that may be reposed in the stellar characteristics derived from long-extended series of observations on individual systems. While it is not possible to fix uniquely in this manner the ratio of central to mean density from the observations of apsidal motion, lower limits of this ratio can be obtained directly for the more concentrated component with no assumption as to stellar model except the non-existence of densities increasing outward. For Y Cygni the ratio is found to be 11 : 1 and for the other four stars values from 9 : 1 up to 32 : 1. This implies a far greater ratio than the observed ellipticities themselves would indicate. Russell has shown, however, following earlier work of Chandrasekhar, that the surface of an ellipsoidal star should be brightest per unit area where the distance from the center of the star is least, that is, on the sides of the ellipsoid. This effect will therefore to some extent increase the ellipticity of figure deduced from observations of the light-variation. Hence it is to be concluded that ellipticities heretofore deduced have been too large and therefore the deduced central condensations too small.

The year's most significant contribution to astronomy, by far, comes from the desk of Hans Bethe, professor of physics at Cornell. For years the paramount question in the problem of stellar energy has been its source. It has gradually come to be felt that probably some considerable part of the energy-radiation arises from the conversion of hydrogen into helium, since the atomic weight of one helium atom is less by 0.032 units than that of four hydrogen atoms, but a convincing detailed description of the process has been lacking. Bethe shows that there exists a chain of reactions, in which carbon and nitrogen occur as catalysts, and in which the carbon is restored at the end of the cycle. The complete chain is as follows:



The  $\gamma$ 's represent radiation emitted and the  $\epsilon$ 's are ejected positrons. The carbon-nitrogen reactions are shown to be unique in their cyclical character and to yield a rate of energy production in excellent agreement with observation, for the main-sequence stars. This chain, dominant at temperatures above 16,000,000° will not explain the radiation in stars of the giant class, but Bethe shows that there exists another set of reactions starting with the combination of two protons into a denteron which will cover this case.

Bethe shows further that no elements heavier than helium can be built up in ordinary stars, so those found observationally must have already existed there when the above reactions set in. He does not attempt to analyse this early stage in the evolution. It is of some importance that he finds the  $\text{C}^{12}$  may fail to be reproduced about once in  $10^{12}$  times, so that it is possible for a star to exhaust its supply of the vital catalyst. The theory leads to a slight modification in the exponents in the mass-luminosity relation, in rather better

agreement with observation, and to the conclusion that the luminosity of stars such as the sun is slowly increasing.

Eddington shows that the hydrogen content of the companion to Sirius is probably about the same as for the sun, negating the view held currently by some that the reason a star contracts into a white dwarf is that it has exhausted its supply of hydrogen; on the other hand Van Maanen's star and  $\alpha_2$  Eridani are of low hydrogen content. He points out that Bethe's theory is here beset with difficulties but suggests that perhaps the catalysts carbon and nitrogen are slowly consumed in the Bethe chain reaction carrying the star through a stage of evolution intermediate between main-sequence and white-dwarf. At the end of the Bethe chain the nitrogen isotope  $\text{N}^{15}$  might combine with a hydrogen atom to form  $\text{C}^{12}$  and a helium atom, which Bethe believed much the most probable course; there is a small probability, however, of the nitrogen and hydrogen going over into ordinary stable oxygen with the emission of radiation. If this chances to happen regularly in even a few per cent of the cases, the star's store of carbon (probably initially small anyway) will become exhausted and the main chain of reactions impossible. Gravitational energy would presumably then take over the work of making the star shine, at the cost of a cosmically rapid shrinkage in the star's diameter.

Eddington suggests alternatively that the carbon and nitrogen form along with other heavy elements after the primeval globe of hydrogen has shrunk to white-dwarf density and that the greater energy-liberation which takes place after the Bethe chain sets in, expands the star, (perhaps almost catastrophically) to the state of a main-sequence object. There could be a later return to white-dwarf conditions with low hydrogen content if the timescale permits.

#### STARS—SPECIFIC

During the first month of use of the new McDonald telescope, Kuiper

discovered two new white dwarfs; the present list therefore comprises 21 well-authenticated objects of this type. Perhaps some of these stars should be included rather in the new so-called "subdwarf" category of stars, which lie three or four magnitudes only below the main sequence on the spectrum-luminosity diagram. Kuiper lists 24 stars as probably subdwarf as a further result of this first month's work.

Swings and Edlen have made a term analysis of the spectrum of doubly ionized iron and succeeded thereby in identifying one of its multiplets in the spectra of Gamma Pegasi, Gamma Cassiopeiae and P Cygni.

O'Keefe has shown that the observed variation in brightness of R Coronae Borealis may reasonably be explained on the assumption that the star ejects carbon atoms from its lower atmosphere much as prominences are pushed upon our sun. (Carbon is known to be exceptionally abundant in this star.) As the cloud of carbon atoms rises it cools and solid carbon forms, perhaps at a distance of 10 radii or less; this obscuring cloud is then gradually dissipated by the radiation pressure from below. The familiar rapid decrease in brightness he associates with the period of formation of the fine graphite crystals, the slow rise with the interval during which the dissipation is taking place.

Spitzer has studied high-dispersion spectra of Betelgeuse and Alpha Herculis and shows that for Betelgeuse the temperatures determined from different properties of the atmosphere vary tremendously, from  $2100^\circ$  deduced from widths of strong iron lines, and  $3400^\circ$  from angular diameter and apparent bolometric magnitude, to  $200,000^\circ$  from substituting the magnitude of the observed turbulent velocities into the formula  $\bar{v}^2 = 3 k T/m$  for kinetic temperature. This indicates an almost complete lack of thermodynamic equilibrium in the atmosphere. His findings are the same for Alpha Herculis. Marked asymmetry of the strong ultimate spectral lines appears, as if

there were a wide line at the expected position blended with a narrow deep component about 0.1 Angstrom to the violet. He interprets this as indicating that, while the star has the usual photosphere, there is a thin shell of outward-moving atoms of velocities four to 40 kilometers per second. These atoms are neutral and raised by radiation pressure; they ionize eventually and return to the photosphere under gravity. This explanation is plausible since the ultraviolet radiation of the photospheres of these red stars is very low and the ionized atoms would require a fair amount of ultraviolet to support them against gravity. (The equilibrium-pressure temperature for sodium, for example, is  $3100^\circ$ .) This indicates the important part that radiation pressure will play in any acceptable theory of the structure of the atmospheres of super giant stars.

Hall has observed Algol intensively with the photoelectric cell at 5500 Angstroms and 8660 Angstroms near primary minimum and in the infrared also at other phases. The time of primary minimum at the two wave-lengths is found to be identical within the errors of measurement, estimated at three minutes. The visual observations of Nordmann 30 years ago, using blue and red filters, led him to conclude that the red ( $\lambda 6800$ ) minimum preceded the blue ( $\lambda 4500$ ) by 13 minutes. Hall's very precise work indicates simultaneity and forms by far the best present evidence that the velocity of electromagnetic radiation in vacuo is independent of wave-length. He remarks that, although the Nordmann-Tikhoff effect by its very nature can never be proved not to exist, it is significant that each increase in accuracy of observing decreases the apparent effect. Hall finds the ratio of radii in Algol to be 0.8; the G-type companion star appears to be more elliptical than the B8 primary. On the assumption of a temperature of  $15,000^\circ$  for the B Star, the companion is at  $5600^\circ$ . The evidence for a third body C is difficult of interpretation, and Hall feels that it is best satisfied at pres-



ent by the assumption that C is double.

O. C. Wilson finds that HD 193576, a Wolf-Rayet star, is probably a spectroscopic binary with one component WN5 and the other of type O or B. If this is true, further observation will produce valuable evidence concerning the mass of a Wolf-Rayet star.

The extensive series of spectra obtained for supernovae IC 4182 and NGC 1003 have enabled Minkowski to set forth the general pattern of super-nova spectral change with some definiteness. The spectra consists of wide, overlapping emission bands; about two weeks after the outburst the spectrum divides into two parts: in the portion to the red of  $\lambda 5000$  the bands appear and disappear much as in the spectra of ordinary novae; in the region to the blue of  $\lambda 5000$  one strong and several fainter bands form, which gradually shift bodily redward. The cause of this red-shift is very uncertain at present, and Minkowski regards as simplest its interpretation as a Doppler effect in negative absorption lines formed by induced transitions in a forbidden line of a highly ionized atom. It is quite likely that all the bands are at present of unknown origin, if the ionization is as high as the absence of hydrogen and helium lines would suggest.

Trumpler has applied his methods for determining moving-cluster membership to stars in Coma Berenices and finds 37 stars definitely associated in the swarm, only six of them bright enough to be visible to the naked eye. The cluster is found to have a diameter of 30 light years and to be at a distance of 250 light years. Its proper motion is small because the real space motion of 12 mi/sec is nearly parallel to the solar motion.

Smart has investigated the claims of all stars on the U-M cluster lists of Rasmuson, Plummer and Nassau to membership in the cluster. Comparing the position angles of the proper motions, the radial velocities and the parallaxes computed from the known kinematical characteristics of the cluster with the observed

values for the stars themselves, he concludes that the total membership of the cluster is 42 definite, with 47 more that are doubtful and should be reexamined when further data are obtained. The diameter of the cluster appears to be about 400 light years; 10 stars lie in the central sphere of 33 light years diameter, indicating a considerable central condensation. The Russell diagram for the cluster shows a complete lack of stars intrinsically fainter than our sun, or brighter than 600 times the sun, but a spread through all spectral types.

#### INTERSTELLAR MATTER

Struve has calculated the density of free electrons in interstellar space as about  $30/\text{cm}^3$  from reasonable assumptions as to the curves of growth for the neutral and ionized calcium lines. It also appears that these two are present in ratio  $\text{Ca}^+ : \text{Ca} = 100$ . It then follows that  $\text{Na}^+ : \text{Na} = 250$  and  $\text{Ca}^{++} : \text{Ca}^+ = 12$ , and from the previous work of Merrill and Sanford that the total density for sodium in all states is about one atom per cubic meter and for calcium one-fifth as great.

Recent spectrograph observations at McDonald Observatory indicate that the source of the free electrons may be interstellar H; the abundance of  $\text{H} : \text{Na}$  is found to be about  $10^6 : 1$  so that the interstellar gas is quite likely to be almost entirely hydrogen, and the density is about  $3 \times 10^{-25}$  grams per cubic centimeter, in remarkable agreement with Eddington's original estimate.

Bengt Strömgren has shown independently that the discovery of hydrogen-line emission in nebulae, by Struve and his associates, suggests the existence of ionized hydrogen in interstellar space. He shows that the Balmer lines would be expected to be emitted by the interstellar hydrogen only in regions within perhaps 300 light years of a high-temperature, probably an O-type, star. From Struve's estimate of the density of sodium Strömgren then deduces that the density of hydrogen must be of the order of three atoms per cubic



## XVIII. MATHEMATICS AND ASTRONOMY

centimeter. He estimates that the hydrogen stratum must be of about 400 light years thickness on each side of the galactic plane.

Heney and Greenstein, basing their study on the classical Mie theory of scattering of radiation by small spherical particles, have investigated rigorously the problem of the color of an idealized reflection nebula compared to that of the illuminating star. The problem is necessarily complex, because the light coming directly from the star may have been modified by passage through nebulous material, and the reflected light from the nebula must also have been somewhat modified, either before or after reflection, or both. They find that if the nebula is in front of the star, it will always appear bluer than the star, but if it is in back it will appear redder than the star by a factor which decreases as its total opacity increases.

From spectrophotometric measures on 1,332 B stars, Stebbins, Huffer and Whitford find that selective absorption in space varies inversely as the wave length. They believe that this implies that the total visual and total photographic absorption are respectively seven and nine times the color-excess of the star. Applying corrections for this absorption to the earlier absolute magnitudes of B stars, they find the absolute magnitudes of early B stars to be about 1<sup>m</sup> brighter than previously assumed. Their study brings out strongly the irregular or "patchy" character of the interstellar absorption near the galactic circle and the consequent danger in the use of mean coefficients for space absorption.

### EXTERIOR GALAXIES

Boade and Hubble, from 100-inch plates, find the distance of Shapley's stellar system in Sculptor to be about 275,000 light-years and the dimen-

sions to be 45' x 40', corresponding to 3600 x 3300 light-years. This is therefore probably a dwarf system comparable to IC 1613, another member of the local group. No supergiant stars are found. For the Fornax system, 50' x 35', the star-distribution is much as in Sculptor, but it contains two globular clusters, of apparent magnitudes 14.2 and 15.0; the former is NGC 1049. There are no supergiants in the system and the distance is 610,000 light-years, so that the dimensions are 9000 x 6000 light-years. This makes 5 dwarfs among 11 recognized members of the local group and thus raises an important question concerning the true frequency of dwarf systems in space.

Mayall, from a study of spectrograms of eighty exterior galaxies made with the Crossley reflector and a specially-built U V glass spectrograph, has found that the forbidden line of oxygen of wave-length 3727 Angstroms, occurs in emission in from a fifth to a half the galaxies of each type. Late-type galaxies seem to show this emission rather more frequently than early-type, and Mayall feels that the visibility of 3727 in emission increases as that of the standard absorption lines decreases. This discovery may be of considerable importance in the future study of red-shift of very distant galaxies.

Holmberg has shown that the linear relation between radial velocity and distance from center, observed in the great nebula in Andromeda and elsewhere, can be regarded as a consequence of the ordinary Newtonian law of attraction. He points out that absorption of light within the nebula, and the relation between observed radial velocity and true orbital velocity in the presence of considerable absorption, have not been accorded the importance due them in previous discussions of the radial-velocity observations.

## PERIODICAL PUBLICATIONS

*American Journal of Mathematics*  
Johns Hopkins Press, Baltimore,  
Md.

*American Mathematical Monthly*  
Menasha, Wis.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

*Annals of Mathematics*  
Princeton University Press, Princeton, N.J.  
*Astronomical Journal*  
Albany, N.Y.  
*Astrophysical Journal*  
5750 Ellis Ave., Chicago  
*Bulletin of the American Mathematical Society*  
Menasha, Wis., and New York City.  
*Duke Mathematical Journal*  
Duke University Press, Chapel Hill, N.C.

*Journal of Mathematics and Physics*  
Massachusetts Institute of Technology, Cambridge, Mass.  
*Popular Astronomy*  
Carleton College, Northfield, Minn.  
*School Science and Mathematics*  
Menasha, Wis.  
*Transactions of the American Mathematical Society*  
Menasha, Wis., and New York City.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN ASTRONOMICAL SOCIETY,  
University Observatory, Princeton,  
N.J.  
AMERICAN MATHEMATICAL SOCIETY,  
531 W. 116th St., New York City.  
MATHEMATICAL ASSN. OF AMERICA, 33  
Peters Hall, Oberlin, O.

NATIONAL ACADEMY OF SCIENCES, 2101  
Constitution Ave., N.W., Washing-  
ton, D.C.  
SCIENCE SERVICE, 2101 Constitution  
Ave., N.W., Washington, D.C.

## DIVISION XIX

### ENGINEERING AND CONSTRUCTION

#### STRUCTURAL ENGINEERING

By J. J. DOLAND

PROFESSOR, UNIVERSITY OF ILLINOIS

---

#### DAMS

**General.**—The Bureau of Reclamation, the Corps of Engineers, United States Army, and the Tennessee Valley Authority carried on the principal activities in the field of dam construction in 1939. The Bureau of Reclamation continued the construction of Grand Coulee Dam in Washington, the Shasta Dam in California and the Marshall Ford Dam in Texas. It began construction operations on the Green Mountain Dam in Colorado and awarded the contract for the Friant Dam in California. The Bartlett Dam (see *THE AMERICAN YEAR BOOK*, 1938, p. 648) in Arizona was completed during the year. The Corps of Engineers continued construction operations on several flood control and multipurpose dams among which are the Conchas in New Mexico, Sardis in Mississippi, the Great Salt Plains and Fort Supply in Oklahoma, the Fort Peck in Montana, the Mud Mountain in Washington, the Hansen in California, the Crooked Creek and Tionesta in Pennsylvania, Franklin Falls in New Hampshire, the Knightville in Massachusetts, and the Arkport and Whitney Point in New York. The Tennessee Valley Authority continued the construction of the Hiwassee Dam in North Carolina, the Chickamauga Dam in Tennessee and the Gilbertsville Dam in Kentucky. The South Carolina Public Service Authority continued its work on the construction of dams for

the Santee-Cooper project as did Seattle, Wash., on the Ross Dam formerly called the Ruby Dam. Work on several additional dams carried on by the agencies mentioned and others added considerably to the expenditures for dam construction during the year.

**Denison Dam.**—The large flood control program of the Corps of Engineers was challenged by Oklahoma in connection with the construction of Denison Dam. As a result of a suit filed by the state, the U. S. Supreme Court on Dec. 18, 1939, called for the presentation of oral arguments on Jan. 29, 1940, on the right of the state to proceed in an effort to enjoin the Secretary of War from continuing with the construction. The proposed Denison Dam, located in Texas and Oklahoma, 751 miles above the mouth of the Red River, is authorized by Congress for flood control and the development of hydro-electric power. The rolled fill earth embankment is 165 feet high and 14,000 feet long at the crest. The outlet works, adjacent to the south abutment, consist of eight conduits each 20 feet in diameter and 1,000 feet long. The ogee crest spillway is 2,000 feet long and has a capacity of 1,000,000 cubic feet per second. The estimated cost is \$54,000,000.

**Grand Coulee Dam.**—At the close of the year the contract was about 70 per cent complete. A total of ap-

proximately 3,500,000 cubic yards of concrete were placed in 1939. The total volume of concrete in the dam and power house is 5,810,000 cubic yards. A world's record for the placement of concrete was first established in July, 1939, when more than 20,000 cubic yards were placed within a 24-hour period. (See *THE AMERICAN YEAR BOOK*, 1934-1938.)

**Shasta Dam.**—Shasta Dam, being constructed on the Sacramento River near Redding, Calif., will be a slightly curved concrete structure 560 feet high and 3,500 feet long. Work in 1939 consisted mainly of foundation excavation which progressed so rapidly that it is anticipated the placing of concrete will be started in April, 1940. (See *THE AMERICAN YEAR BOOK*, 1936, p. 634, and 1938, p. 647.)

**Marshall Ford Dam.**—This structure is being built by the U.S. Bureau of Reclamation for irrigation purposes on Colorado River 22 miles above Austin, Tex. It is a concrete gravity structure flanked by an earth embankment. When started in 1936, it was planned to build the structure in two stages. The present plan calls for three stages. The first stage, which included a maximum height of 180 feet, was completed in the spring of 1939. The second stage, which will raise the structure 58 feet, has been started. The ultimate maximum height will be 260 feet and the crest length 5,100 feet.

**Green Mountain Dam.**—This structure is a part of the Colorado-Big Thompson project (see *THE AMERICAN YEAR BOOK*, 1937, p. 665, and 1938, p. 648). Construction work was started on the upstream portion of the tunnel on Dec. 9, 1938, and the tunnel was holed through on May 15, 1939. The dam is an earth and rock fill embankment 270 feet high above the stream bed with a crest length of 270 feet. A concrete power house 67 feet by 97 feet will contain two 1200 K.V.A. generators driven by two 14,100 horsepower turbines. The hydro-electric machinery will operate under an average head of 225 feet and will develop about 800,000 kilowatt-hours annually. Labor difficulties impeded progress

during part of 1939, and at the close of the year the contract was about 30 per cent complete.

**Friant Dam.**—This structure, the principal unit of the southern portion of Central Valley Project, is on the San Joaquin River about 20 miles north of Fresno, Calif. It will be of the concrete gravity type, 300 feet high and crest length of 3,450 feet. Its construction involves the excavation of 770,000 cubic yards of earth and rock for the preparation of the foundations, the placement of 1,907,000 cubic yards of concrete, 3,300,000 pounds of steel reinforcing bars, and 10,250,000 pounds of gates, valves, pipe, machinery and other metal work. The contract was awarded on Oct. 11, 1939, at a bid price of \$8,715,400 which includes only labor and equipment. The principal material items will be furnished by the Government. Construction work began in December, 1939.

**Conchas Dam.**—The Conchas Dam, on the South Canadian River, San Miguel County, New Mexico, was completed in 1939 after four years of construction. Its purpose is to reduce flood damage in the valley of the South Canadian River in Texas and Oklahoma and to provide water for the irrigation of 45,000 acres of land in New Mexico. Incidental municipal water supply and recreational benefits are also expected to be derived. The structure consists of a concrete main dam with contiguous earth wing dams, a concrete ogee emergency spillway, three earth dikes, irrigation headworks, and an earth saddle dam. The maximum height of the concrete section is 235 feet and of the earth dikes, 96 feet. Total volume of concrete is 830,000 cubic yards; earth fill is 2,900,000 cubic yards; rock fill is 785,000 cubic yards; and of excavation, 1,275,000 cubic yards. The reservoir, when full, will have a surface area of 26 square miles and contain 600,000 acre-feet of water. The total estimated cost of the project is \$16,250,000.

**Sardis Dam.**—The Sardis Dam is located on the Little Tallahatchie River in Panola County, Mississippi.



It is a part of a comprehensive plan for flood control on the Yazoo River which plan will afford overflow protection of that part of the basin which lies above the head of the Mississippi backwater area. It is the first of several dams to be included in the flood control program for the lower Mississippi. The Sardis reservoir will store 1,570,000 acre feet of water and will form a lake 90 square miles in area and more than 30 miles long. The dam, a combination of the hydraulic fill and earth fill type, is 117 feet high above the stream bed and 14,550 feet long at the crest. The chute spillway has a capacity of 132,000 cubic feet per second and a crest length of 400 feet. Regulation of outflow from reservoir storage is provided by a single conduit controlled by four gates. The total estimated quantity of earth fill is 16,814,000 cubic yards. The dam is of considerable structural interest because it represents an experiment in the value of delta soils for hydraulic-fill purposes. The estimated cost of dam and reservoir is \$14,500,000.

**Fort Supply Dam.**—This dam is located on Wolf Creek, a tributary of the North Canadian River in northwestern Oklahoma. It is a rolled fill earth dam, 75 feet high and two miles long, containing 4,500,000 cubic yards of earth fill in the embankments and 260,000 cubic yards of concrete in the 1,400 feet long spillway and control works. The dam and reservoir form one unit of a plan for the control of floodwaters in the North Canadian River watershed.

**Great Salt Plains Dam.**—This structure is being built across the Salt Fork of the Arkansas River in Alfalfa County, Oklahoma. It is a rolled fill earth embankment, 69 feet high and 1,100 feet long. The dam and reservoir form one unit of a comprehensive flood control plan for the Arkansas River.

**Fort Peck Dam.**—The failure of a portion of the Fort Peck Dam on Sept. 28, 1938, was declared by an investigating board to be due to a shearing failure of the shale underlying the valley fill which forms the foundation for the dam. It was de-

cided to rebuild the failed portion, using a rolled earth core and an upstream slope flatter than the 3.3 to 1 used in the original design. (See THE AMERICAN YEAR BOOK, 1938, p. 646).

**Mud Mountain Dam.**—The Mud Mountain or Isaac Ingalls Stevens Reservoir will be constructed for flood control purposes on the White River, a tributary of the Puyallup River in Washington. It will be of the rolled earth fill type 420 feet high and 700 feet long. This will be the highest earth dam of any type in the world and exceed the next highest, San Gabriel No. 1, California, by 45 feet. The outlet works consist of one horseshoe tunnel nine feet in diameter, 1,800 feet long, and one circular tunnel 23 feet in diameter, 2,000 feet long. The concrete lined spillway will be located on the right bank.

**Pittsburgh Flood Control Dams.**—The Tionesta, Crooked Creek and Mahoning dams form three of the units in a reservoir system plan of ten dams proposed for the flood protection of Pittsburgh and the upper Ohio River Valley. Construction was begun in the spring of 1938.

Tionesta Dam is located in Forest County, Pennsylvania, on Tionesta Creek, a tributary of the Allegheny River. It is a rolled fill earth type protected by a concrete saddle spillway situated about 7,500 feet from the main structure. The embankment is 1,050 feet long and 154 feet high above the stream bed. The outlet works consist of a 19-foot diameter tunnel 1,875 feet long through which the flow is controlled by three 7 ft.-6 in. by 16 ft. vertical lift gates and two 24-inch needle valves. The estimated cost of the project is \$4,285,000.

Crooked Creek Dam is located in Armstrong County, Pennsylvania, on Crooked Creek, a tributary of the Allegheny. It is similar to Tionesta Dam in type, construction, and general arrangement of spillway, outlet works, and control works. Its maximum height above stream bed is 143 ft. and its crest length is 1,480 feet. The estimated cost of the project is \$4,850,000.

Mahoning Dam, on Mahoning

Creek, four miles northwest of Dayton, Penn., is of the concrete gravity type, 160 feet high and 933 feet long. The outlet works will discharge through the spillway section which will be controlled by five crest gates. The lowest bid received for construction of the dam was \$4,467,000.

**New England Flood Control Dams.**—The Franklin Falls Dam is on the Pemigeewasset River about  $2\frac{1}{2}$  miles north of Franklin, N.H. It has a maximum height of 140 feet and a crest length of 1,700 feet. The 550-foot long spillway and the gate controlled outlet works will be constructed in open rock cut. The Knightville Dam on the Westfield River in Hampshire County, Massachusetts, will be 160 feet high and 1,200 feet long. An overflow gravity section spillway is located in a natural saddle west of the main dam. The Surry Mountain Dam is five miles northwest of Keene, New Hampshire, on the Ashuelot River in the Connecticut Valley. It is 83 feet high and 1,670 feet long. The side channel spillway and weir will be constructed adjacent to the west abutment. A 10-foot diameter tunnel 400 feet long, controlled by self closing Broome gates, will serve to release water from the reservoir. These dams are being constructed for flood-water protection in New England.

#### **Susquehanna River Flood Control.**

—The Arkport Dam and the Whitney Point Dam are being constructed as a part of a plan for the control of floods in the Susquehanna River Valley. Both are of the earth fill type. The Arkport Dam, located on Canisteo River, five miles above Hornell, N.Y., is 113 feet high and 1,200 feet long. The side channel spillway has a crest length of 160 feet and the 8-foot diameter outlet tunnel is 625 feet long. The Whitney Point dam on the Otselic River 23 miles above Binghamton, N.Y., is 90 feet high and the main section 1,300 feet long. Auxiliary dikes placed at either end of the main embankment have a total length of 3,700 feet. The spillway has a crest length of 240 feet and has a capacity of 58,000

cubic feet per second when operating under a head of 17 feet.

**Hansen Dam.**—This structure, being constructed in Tujunga Wash in Los Angeles, Calif., will be the largest rolled-fill earth dam in the world. Its volume of 12,900,000 cubic yards will be exceeded only by four hydraulic fill dams—Fort Peck, Kingsley, Gatun, and Sardis. The Hansen Dam is part of the flood control plan for the protection of Los Angeles and environs. Its height will be 122 feet above the stream bed and its crest length, 9,050. The upstream slope is 3:1 and the downstream slopes are 3:1, 5:1 and 6:1. An outstanding feature of the construction is the use for the first time in large scale operations of new types of earthmoving equipment. A belt conveyor loader known as a "Dragveyor" is being used to transfer materials from draglines to trucks, and a two-wheel tractor known as a "Tournapull" hauls scrapers at speeds up to 20 miles per hour after they have been loaded by pusher tractors of conventional design. The "Dragveyor" and "Tournapull" are patented devices. The basin back of the dam will normally contain little water and is designed to take a storm inflow of 64,130 acre feet at a maximum rate of 64,800 cubic feet per second. The outlets have a maximum capacity of 12,000 cubic feet per second when the reservoir has reached spillway crest level. The structure might, therefore, reduce a flood peak by 52,800 cubic feet per second. The low bid for the construction was \$5,689,000. Construction work started in the fall of 1938.

**Navigation Dams.**—Three of the Upper Mississippi River navigation dams were completed during 1939—No. 17 near New Boston, Ill.; No. 22 below Hannibal, Mo., and No. 25 near Winfield, Mo. The lock at Dam No. 24 at Clarksville, Mo., was completed, and the dam was about 70 per cent complete at the end of the year. When the latter structure is placed in operation in 1940, all locks and dams included in the 9-foot channel improvement will have been finished except for contemplated changes in

## XIX. ENGINEERING AND CONSTRUCTION

existing structures. (See *THE AMERICAN YEAR BOOK*, 1936, p. 629.)

The Tuscaloosa Lock and Dam on the Black Warrior River in Alabama was also completed during 1939. This structure replaces three old structures. The estimated cost is \$3,000,000.

**Tennessee Valley Authority Dams.**—After two years of foundation exploration and design studies, the Tennessee Valley Authority began construction of the Gilbertsville dam to be located at Gilbertsville, Ky., on the Tennessee River. Congress appropriated \$12,500,000 in March, 1939, for the next year's work. Purposes of Gilbertsville Dam are flood control and completion of a 9-foot navigation channel in the Tennessee River. It is the largest dam to be built by the Tennessee Valley Authority. Total cost of Gilbertsville is placed at \$90,000,000 divided about equally among land purchase, dam construction and highway and railway relocation. The Hiwassee Dam in southwestern North Carolina and the Chickamauga Dam in Tennessee were nearing completion at the end of 1939. (See *THE AMERICAN YEAR BOOK*, 1938, p. 649.) The plan of the Tennessee Valley Authority for the improvement of the Tennessee River is described in *THE AMERICAN YEAR BOOK*, 1936, p. 630.

**Santee-Cooper Project.**—The Santee-Cooper Project, now under construction in South Carolina by the South Carolina Public Service Authority, will be the first large hydro-electric installation below the fall line in the southeastern states, and the first such project anywhere in the country to be owned and operated by a state-created authority. It will provide power, flood control and reclamation for a large area, and an inland waterway between Charleston and Columbia. More than 16,000,000 cubic yards of earth and sand fill will go into the dams and dikes of the Santee-Cooper Project, and a somewhat greater quantity of excavation of the canals and channel improvements. The project will cost \$40,000,000.

**Ross (Ruby) Dam.**—The Depart-

ment of Lighting of Seattle, Wash., continued construction on the Ross Dam. This structure is described as the Ruby Dam (see *THE AMERICAN YEAR BOOK*, 1938, p. 648). The only access for men and materials to the construction site is by boat over the Diabolo Reservoir situated just below the Ruby Dam. Freight cars are transported by barge and transferred to a 20 per cent grade railway operated by cables and a 100-horsepower motor. The dam will be completed to a height of 290 feet in 1940. It is expected that the ultimate height of 653 feet will be reached in 1949.

**Possum Kingdom Dam.**—This structure is the one of a series of 13 dams which are proposed along the course of the Brazos River in Texas to provide flood control, water conservation, and power development for the entire drainage area. The dam will be a flat slab reinforced concrete type 164.5 feet high and 1,610 feet long. Flanking earth dikes on either side have a total length of 1,010 feet. The capacity of the impounding reservoir is 730,000 acre feet. Three hydro-electric power units, having a total capacity of 30,000 k.w., will be installed. The work is being carried on by the Brazos River District with W.P.A. funds.

**Miscellaneous Dams.**—Other dams being constructed or completed by the Corps of Engineers in 1939, include the Wapapello Dam in Missouri, a multiple purpose structure, the Prado Dam for flood control in California and the North Fork and Upper Narrows Dams for hydraulic mining and debris control in California. The Bureau of Reclamation completed the Boea Dam on the Little Truckee River in Nevada; Fresno Dam on the Milk River in Montana; and the Grassy Lake Dam on the Upper Snake River in Idaho. The Deer Creek Dam in Utah was about 50 per cent completed at the end of 1939. It is an earth and rock fill embankment 230 feet high with a volume of about 3,000,000 cubic yards. The power house at Seminoe Dam, Wyoming, was completed on July 1, 1939.



## STRUCTURAL ENGINEERING

### BRIDGES

**Building Activity.**—During 1939 there was considerable activity in small bridge construction, and several larger structures were opened for traffic. An application for a permit to build a bridge over the ship channel at the Battery in New York City was denied by the War Department on National defense grounds. Among the important structures opened to traffic in 1939 were Bronx-Whitestone in New York, Deer Island-Sedgwick Bridge in Hancock County, Maine, the Highland Park Bridge over the Allegheny River in Pittsburgh, the Mississippi River Bridge at LaCrosse, Wis., and the Abraham Lincoln Bridge over the Rock River at Dixon, Ill.

**Bronx-Whitestone Bridge.**—The \$18,000,000 Bronx-Whitestone Bridge over the East River, New York City, was opened on April 29, 1939. This structure is another link in the comprehensive arterial highway system being developed in the New York metropolitan region. The main suspension span is 2,300 feet, and the side spans are 735 feet each. The approach viaduct on the Queens side is 1,620 feet in length and that on the Bronx side is 2,360 feet. Both viaducts consist of continuous plate girder spans on concrete piers. The towers are 377 feet high from mean high water to top of cable housing. Each of the two cables has a finished diameter of 22 inches and a net sectional area of wire of 297 square inches. Each of two roadways have a width of 27 feet 6 inches. A total of 22,300 tons of structural steel and 200,000 cubic yards of concrete were used in the construction.

**Meeker Avenue Bridge.**—This structure provides a much needed additional thoroughfare between Brooklyn and Queens. The bridge with approaches is 6,415 feet long. It carries two roadways each 32 feet wide separated by a middle aisle four feet wide and two sidewalks each eight feet wide. The main span, over Newtown Creek, is a 300-foot span Warren truss supported on steel towers 97 feet high. The cost of the bridge including land was \$5,589,000.

It was opened for traffic in the year 1939.

**Lake Washington Bridge.**—Contracts were awarded on this unique pontoon structure on Dec. 31, 1938 (see *THE AMERICAN YEAR BOOK*, 1938, p. 651). The cost of the structure will be approximately \$3,254,000.

**Galveston Causeway.**—This structure was dedicated on Aug. 15, 1939. It was built with P.W.A. funds. (See *THE AMERICAN YEAR BOOK*, 1938, p. 650.)

**Main Avenue Bridge, Cleveland, O.**—This bridge was opened to traffic on Oct. 6, 1939. The main viaduct, 2,520 feet long, consists of a series of anchor spans and cantilever arms with intermediate suspended spans. Span lengths vary from 200 to 400 feet. The approaches, 4,500 feet long, include extensive traffic sorting overpasses and subways. The east approach contains a girder 271 feet in length, the longest girder span in the United States. The bridge was built for Cuyahoga County at a cost of \$7,200,000.

**Lancaster Street Bridge.**—When U.S. Highway No. 80 at Fort Worth, Tex., was re-routed, the principal construction was the Lancaster Street Bridge. The new route crosses Trinity River and passes through Trinity Park. Deck trusses with curved bottom chords were selected for the park area and the main river channel; approaches are I-beam spans with massive concrete tower piers marking the end of the approach spans and the beginning of the truss section, which consists of six 3-span continuous deck truss units. The contract price was \$557,000, the largest regular Federal-aid bridge project ever carried out for the Texas State Highway Department.

**Anacostia River Bridge, Washington, D.C.**—A new structure is being constructed to replace the antiquated steel truss bridge over the Pennsylvania Avenue S.E. crossing of the Anacostia River. It is 1,925 feet long and contains nine 154-foot deck girder spans, alternating continuous and suspended. Two 28-foot roadways are separated by a center curb.



**Pit River Bridge, California.**—Construction was begun by the Bureau of Reclamation on the foundations and piers for the Pit River Bridge, a part of the relocation of the Southern Pacific Railroad and U.S. Highway 99 required by the construction of Shasta Reservoir. The structure is notable because of the unusual height, 360 feet, of the concrete piers and the fact that possible earthquakes had to be considered in the design. The double deck steel superstructure will consist of eight cantilever and anchor spans and five girder spans, the longest of which is 630 feet.

**Tacoma Narrows Bridge.**—A 2,800-foot cable suspension span and two 1,100-foot side spans comprise the principal features of this bridge which is being built across an arm of Puget Sound in Washington. Bottom door caissons were sunk in water 120 feet to 140 feet deep for the construction of the 425-foot lower foundations. The cost of the structure is estimated at \$5,950,000.

## BUILDINGS

**Los Angeles Union Station.**—This largest railway passenger terminal west of Chicago was opened for service on May 7, 1939, serving the Sante Fe, Southern Pacific, and Union Pacific railways. Except for steel rails, metal platform sheds, earth fill under the elevated tracks, and several auxiliary structures, the huge plant is built of reinforced concrete. The main station buildings, which are dominated by a tall clock tower, comprise a spacious vestibule, waiting room, and ticket office. The plant includes an office building, a restaurant, and a utility building. The architecture of the main station group is modified Mediterranean with a Spanish mission influence. The 75-acre plant was erected at a cost of \$11,000,000, divided proportionally by the three rail lines which use the rails.

**New England Mutual Life Insurance Building, Boston.**—Clearing of the site for this 10-story office building with a 280-foot high tower began on May 1, 1939. Soft clay subsoil presented a major problem in

planning the building on account of the fact that it is on the site of a tidal marsh reclaimed years ago by covering with 20 feet of fill. To prevent unequal settlement the building was so planned as to balance its weight against the weight of the excavated soil and distribute it by a concrete box sub-structure 40 feet high and with walls having a minimum thickness of 3 feet 6 inches. Each wall rests on a footing slab 15 to 18 feet wide by 8 to 10 feet thick. The building columns are carried on steel billets on top of these walls. This sub-structure is being built by an ingenious method in which shores butting against sections of foundation slab hold the sides of the excavation. Historical interest attaches to the discovery through excavation operations of a well preserved fish weir in the clay 20 feet below tide level. The weir consisted of close-set vertical withes driven into the top of the hard clay and interlaced brush placed horizontally. Is is the oldest evidence of human handiwork in the region.

**Johnson Office Building, Racine, Wis.**—The new office building in Racine of C. S. Johnson & Son, Inc., is a structure unique in form, arrangement, use of materials, and methods of construction. Among its features of structural interest are walls without a single window, a new form of slim, tapering, hollow concrete column with a flaring, circular cap, horizontal bands of structural glass tubes to admit daylight, an air-conditioned work room, use of the main concrete floor slab, under which steam pipes are laid as a radiator, a multi-dome flat roof slab, brick walls with a core of cork and concrete, and extensive use of expanded metal of concrete reinforcement. The structure will cost in excess of \$350,000.

**Bankers Life Building, Des Moines, Ia.**—Features of this building are long-span structural framing to create large office areas without columns; limestone, glass, bronze and granite exterior; enameled steel plate interior finish, perforated metal ceilings for air conditioning; and a wall heating system. Foundations in

## STRUCTURAL ENGINEERING

variable soil consist of a rigid concrete frame on spread footings.

**Martin Airplane Factory, Baltimore.**—A 10½-acre factory for the Glenn L. Martin Company was built in 11 weeks. Speed of construction was attributed to high-pressure planning and design, coordinated materials supply and construction scheduling, and day and night field work. The building cost \$1,800,000 and has 440,000 square feet of floor space.

**General Motors Building, Indianapolis.**—The Allison division of General Motors in Indianapolis is completing a new factory to be devoted to the manufacture and development of its liquid-cooled aircraft engines. The new building is of windowless masonry and has controlled lighting and air conditioning. The factory will be the largest windowless factory yet built, with an area of 240,000 sq. ft. The building includes a power plant equipped with Diesel engines capable of supplying all the power required for manufacturing and lighting.

**Ford Motor Company Automobile Press Shop, Detroit.**—Space planning, foundation design, heating and ventilating designs, and power distribution are new and unusual features in this new press shop which is one of the largest industrial buildings ever built. The structure has a modified L shape with stem 393 feet by 1,660 feet and base 240 feet by 642 feet. The floor area is 1,600,000 square feet. More than five acres of 3 ft. thick concrete mat forms the foundation.

**Housing Projects.**—Several large housing projects were completed or being constructed by the U.S. Housing Authority during 1939. Three outstanding examples are the Red Hook Houses at Brooklyn, N.Y., completed at a cost of about \$12,000,000, the group consisting of 2,500 fireproof apartments embracing 10,500 rooms; the Willert Park Housing Project in Buffalo, N.Y., completed at a cost of \$914,000, providing 173 dwelling units averaging four rooms each; and the Metropolitan Life Insurance Company's largest housing project in the United States, in the

Bronx, New York City, to house 12,312 families in fireproof buildings which occupy 27.4 per cent of a 129-acre site.

### PANAMA CANAL

Congress authorized the enlargement of the Panama Canal at a cost of \$277,000,000. A third set of locks will be constructed at each end of the canal. The new locks, 1,200 feet long, 135 feet wide, will be placed from one-quarter to one-half mile from existing locks and connected to the canal by by-pass channels. The navigable depth is 45 feet. Development of a design and construction organization constituted the major portion of the activity during 1939.

### COLORADO RIVER AQUEDUCT

The completion of the 242-mile aqueduct from the Colorado River to Cajolco Reservoir was celebrated on Oct. 14, 1939. It is expected that the distribution system for supplying 1,000,000 gallons per day to the 13 cities of the Metropolitan Water District will be completed in 1940. (See THE AMERICAN YEAR BOOK, 1938, p. 652.)

### CHICAGO SUBWAYS

Construction work was actively carried on during 1939 on this \$40,000,000 project. The work on the first unit was divided into 11 contract sections having an average length of 3,220 feet each. Under the agreement with the Federal Emergency Administration of Public Works the first unit is to be substantially complete by June 30, 1940.

### SOUTH PENNSYLVANIA TOLL ROAD

The Pennsylvania Turnpike Commission began work on the first major toll road in modern times. The 161-mile highway between Harrisburg and Pittsburgh will use the abandoned grade and tunnels of a railroad started 50 years ago. It will have four 12-foot wide lanes with opposing lanes separated by a 10-foot parting strip. The brick paved roadways in the tunnels will be 23 feet wide. The estimated cost is \$60,000,000.

## XIX. ENGINEERING AND CONSTRUCTION

### BOSTON PRESSURE CONDUIT

An 18-mile pressure aqueduct is being built from Wachusett Reservoir to the Boston Metropolitan District. In the ultimate development, costing \$13,500,000, a rock tunnel distributing loop encircling the district

will further improve the supply. The initial development will furnish 200,000,000 gallons per day with provision for an additional 100,000,000 gallons per day by means of a second parallel line east of the tunnel under Sudbury Reservoir.

## MECHANICAL ENGINEERING

By DONALD B. PRENTICE

PRESIDENT, ROSE POLYTECHNIC INSTITUTE

### GENERAL

The work of the mechanical engineer lies in so many and varied fields that it is difficult to establish limits and select material for this review. Mechanical engineers cooperate frequently with chemical and electrical engineers and often share responsibility for projects, such as hydraulic power installations, with civil engineers. The author has endeavored to observe reasonable boundaries for his field and not to assume jurisdiction outside mechanical territory. No attempt has been made to report inclusively, and the following paragraphs present selections from interesting and important items of engineering progress recorded during 1939. In general it may be said that no radical inventions or innovations appeared during the year. Nothing comparable to the automobile or the airplane was introduced. Rather it was a year of steady progress in research and testing, and the results were improvements and refinements in existing machines and techniques.

### RESEARCH

**Lubrication of Bearings.**—Investigation of the lubrication of bearings, under the supervision of an A.S.M.E. committee, followed four distinct lines—the mechanics of thick oil films, boundary lubrication, the thermodynamics of bearings, and pressure-viscosity relationships. Experimental work is being carried on at Yale, Harvard and Columbia, and reports in the form of technical papers before engineering meetings can be expected shortly. One thermodynamic study

which is nearing completion is an investigation of the temperature distribution and heat transfer in railway bearings.

**Volumeter.**—Research on the volumeter was begun at the University of Oklahoma with tests on meters for oil having rated capacities between 175 and 500 g.p.m. This inaugurates what is expected to be a five-year program.

**Surface Fatigue of Materials.**—The strength of gear teeth has been studied further by tests on the surface fatigue of materials. The most significant result developed during the year was the knowledge secured on the thermal factors involved in the phenolic laminated materials. Because of the high internal friction, low modulus of elasticity and low thermal conductivity, the limit of load on materials of this group depends very much on the speed of operation.

**Embrittlement of Boiler Metal.**—Study of the problem of caustic embrittlement of boiler metal continued during 1939. The search for effective chemical inhibitors led to some promising results, chiefly by the use of the wood extracts, lignin, querbracho, and cutch. Part of this research program at the College Park, Maryland, laboratory of the U.S. Bureau of Mines consists of the collection and correlation of data on the embrittling characteristics of actual boiler waters. In this connection an embrittlement detector has been developed and a large number of the devices have been installed in various boiler plants.

**Condenser tubes** are made of cop-



per alloys, not of ferrous metals as are boilers, and research is progressing steadily on tube deterioration. Under observation are four salt-water installations on ships and three freshwater installations ranging from one on a clean lake-fed river to one on a swamp-fed river where the water contains tannic acid from decaying vegetation.

**Telescope Gear Drives.**—During the year extremely interesting work was done on the design and construction of worm gear drives for the 200-inch telescope of the California Institute of Technology. A worm with eight threads in simultaneous contact was designed which should greatly reduce the errors and prolong the life of the mechanism.

**Combustion research** has been general and intense for many years. The importance of power and of its economical production by the burning of fuels has repeatedly attracted the interest of scientists and engineers. It might be supposed that all phases of the problem had been thoroughly covered, and yet within the year a new attack from a different angle has been started at Yale. The current variation is a study of the significance of the shape factor, or surface-volume ratio, of particles of pulverized coal.

**Steam Tests on Steel.**—Experiments on the effect of high temperature steam on steel are continuing at Purdue. The apparatus available provides space for 184 specimens of metal all exposed to steam at  $1100^{\circ}\text{F.} \pm 10^{\circ}\text{F.}$  Tests are run for from 200 to 2000 hours and various alloys are used. Curiously, results occasionally vary between supposedly duplicate specimens more than between different steels. This has led to extreme care in the preparation of test bars, even to sandblasting, in order to secure uniform surface finishes.

**Tensile Test of Steel.**—Problems involved in the rolling of steel are being investigated at the University of Pittsburgh with special equipment for tensile tests of small specimens under temperatures up to  $1200^{\circ}\text{C.}$  The steel is put under tension at high velocities of stretching and data are

secured on the relations between yield stresses, temperature and speed of deformation. The little bars of steel,  $3/16$  in. diameter by 1 in. length, are heated by an induction furnace.

**Motor Tires.**—Research on the behavior of automobile tires on highways has demonstrated, among other matters, the importance of two fundamental principles of design. One is the maintenance of continuous contact with the ground over an area ample to prevent hum and the second is the provision of sufficient drainage area to relieve the tread. The first principle necessitates angle construction of tread projections and the second requires channel arrangement with generous space between the projections.

**Research References.**—In this section have been recorded some important researches in progress during 1939, although in several instances published results will not be available for several years. Results of other research in recent years are incorporated in engineering accomplishments described in later paragraphs. Further information on these or other researches can be secured through the secretary of the American Society of Mechanical Engineers.

## STANDARDS

Committee work on the following standards in the mechanical engineering field was completed during the year, and the following reports were submitted to the American Standards Association for final approval and designation as an "American Standard": Indicating Pressure and Vacuum Gages, Involute Splines, Malleable-Iron Screwed Fittings (revision), Taps (revision), Wrought-Iron and Wrought-Steel Pipe (addendum), Round Unslotted Head Bolts (revision). More than 30 other standards were studied by committees and subcommittees, and data were collected from industry on which subsequent recommendations will be based. The extent of this standardization program can be judged from the fact that in mechanical engineering alone there are 267 committees or groups, with 1,351 members, whose responsibility



is the consideration of new or the revision of old standards.

## MATERIALS

**Cutting of Metals.**—The year was marked by the publication of a *Manual on Cutting of Metals* by the American Society of Mechanical Engineers. This is the first important compilation in this field for many years and brings up to date the material of the now famous volume *On the Art of Cutting Metals* written by Frederick Taylor in 1906. The present *Manual* has been in preparation for six years, and includes all available information on metal cutting with single-point turning tools which the editorial committee of 14 considered important.

**Welding.**—Improvements in welding technique have produced very satisfactory results in welded joints on pipes. The reliability of procedure is such that joints are consistently equal to or stronger than the pipe itself. On small pipe, 2 in. and under, welding of joints has been difficult because of the thinness of wall. This trouble has been met by the use of special fittings at the welded joints.

**Metal Creep.**—The phenomenon in metals known as "creep" has received much experimental study in recent years and reliable data are now available. Creep is the "continued flow of metals under stress at high temperature" and the resulting change of dimension may produce serious distortion and damage. This flow of a metal is caused by a conflict between strain hardening of the material because of stress and softening or tempering because of heat. At high temperature the latter effect becomes serious. Tests must be run for hundreds or even thousands of hours, and some tests have taken five years. Manufacturers are interested in creep of the order of .000001 in. per in. per hr. As an example of the magnitude reached under possible working conditions a creep curve for a steel at 1,000 °F. and under a tensile load of 10,000 lb. per sq. in. showed an extension of the metal of 1 per cent at the end of 2,500 hours.

**Rolling.**—The successful direct roll-

ing of metal on a commercial scale was reported as an accomplishment in 1939. By direct rolling is meant the production of strip from molten metal without first casting ingots. To date the method has been used chiefly on brass. Machines have been constructed which can roll strips .025 in. in thickness at 500 ft. per min. Rolling is practically continuous as the molten metal is poured on a cylindrical surface made of a ring of strip steel (required for rapid cooling) which is driven by two small rolls. Roll pressures are light.

**Cast Iron.**—Improvement in the quality of cast iron continues. By reducing the carbon and increasing the silicon content tensile strengths above 70,000 lb. per sq. in. are regularly and consistently produced. The most serious difficulty is to preserve machinability as hardness increases. Knowledge of alloy cast irons steadily expands, with the use of nickel, chromium, molybdenum, and copper singly or in combinations as the principal alloying metals. Carl Morken summarizes the present status of cast iron in the June, 1939 issue of *Mechanical Engineering*, stating that "the following constitute but a few of the applications for which highly improved irons are available.

1. Mechanical strength. Tensile strengths up to at least 80,000 lb. per sq. in. without heat treatment.
2. Strength combined with toughness as expressed by the 'resilience' figure or impact tests.
3. Of composition rendering the castings especially suitable for heat-treatment.
4. Controlled hardness.
5. Of definitely superior qualities for resisting each of many types of wear.
6. Improved corrosion resistance for a wide variety of reagents and conditions.
7. Heat resistance and ability to withstand even severe oxidizing conditions.
8. Iron that does not distort after machining, but which will retain accurately machined dimensions indefinitely.
9. Nonmagnetic cast iron.

10. Iron of high expansion characteristics.

11. Iron of very low expansion characteristics.

12. Iron which is stable at extremely low temperatures."

A few years ago it would have been necessary to use steel, or a still more expensive metal, in order to secure some of the characteristics which can now be provided in cast iron. For example, a dozen years ago the tensile strength of iron castings was always considered to run from 20,000 to 25,000 lb. per sq. in. While higher strength iron had been produced it was believed to be unreliable and designers were unwilling to risk calculations based on greater loads. Now a strength three times as high can be guaranteed by foundrymen. As cast iron is the cheapest and most plentiful metal, the improvement of quality noted above is of marked economic and social importance.

**Solvent Rubber Adhesives.**—Reference should be made to recent development of solvent rubber adhesives which are now widely used. They have the great advantage of use at normal temperatures, being air-drying. Some forms of these adhesives may be sprayed, which is of importance when fabrics, for example, are to be fastened.

### STEAM POWER

**General.**—No radical innovations appeared during 1939 in the methods or equipment for steam power generation. Developments of recent years have, in general, demonstrated their economy and reliability and have become established practice. The characteristics described below are quite generally accepted as desirable for large units although variations and omissions will be found in smaller plants.

**Pulverized Coal Fuel.**—For fuel the popular choice is pulverized coal, with a design for the furnace which permits a change to oil or gas when desirable. Of course source of supply may indicate either of the latter fuels as preferable in some locations. For pulverized coal the unit crusher and feed has largely superseded the bin

system. Water cooled walls for furnaces predominate and slag-tap furnaces with continuous tapping are favored.

**Steel Behavior Under Pressure.**—Experience in the oil refining industry and laboratory research have provided data for the behavior of alloy steels when under pressure and in contact with high temperature steam. As previously mentioned, much material is now available on "creep" and information on the oxidation of iron from decomposition of steam is accumulating. Consequently the design and construction of modern steam generators are based on reliable statistics even though operating temperatures and pressures are high. Large units are operated at pressures from 1,200 to 1,500 lb. per sq. in. with steam temperatures of 900° to 950° F. In a few installations pressures are as high as 2,000 lb. per sq. in. or above.

**Turbines.**—For turbine units up to 50,000 or 60,000 K.w. capacity speeds are now generally 3,600 r.p.m., replacing the 1,800 r.p.m. speed formerly used for large sets. Speeds of 1,200 r.p.m. are practically obsolete. Superposed turbines, that is, turbines designed to operate on steam of high pressure and to exhaust at pressures used by turbines already installed, have demonstrated their worth. By replacing existing boilers with one or more high pressure steam generators and adding the turbine, the capacity of an existing power plant can be materially increased, perhaps without serious alteration of the building. The over-all economy of operation is improved at the same time. Modern large steam turbines have shrouded blades, moisture catchers in the last stages of condensing units to reduce blade erosion, solid rotors and rigid couplings. More than 90 per cent of new large generators are hydrogen-cooled, with a consequent reduction of windage losses.

**Recording Instruments.**—In general it may be stated that in modern power plants the use of recording, as against indicating, instruments has increased, and many measurements of operating performance are now made for filing and future study.

## XIX. ENGINEERING AND CONSTRUCTION

### THE GAS TURBINE

The same research and progress in metallurgy which have benefited the oil refining industry and have made high pressure and temperature steam generators feasible have led to the successful development of the gas turbine. Coupled with the requirement that a metal must be used capable of withstanding continuous operating temperatures of 900–1,000° F. was the necessity of securing a relatively high efficiency in a turbo-compressor. Only in recent years have efficiencies been secured in turbine and compressor which would permit the turbine to have any surplus power for other purposes after driving the compressor to furnish air for its own operation.

The gas turbine has been a goal for designers for many years. It offers the same advantages compared to the reciprocating gas engine which the steam turbine holds over the steam engine; advantages which are especially important if it is desired to drive an electric generator.

The gas turbine which has attracted much attention in 1939 (one is installed at the Marcus Hook plant of the Sun Oil Company) is of the continuous, rather than intermittent combustion type. The latter might well be called an explosion turbine for combustion takes place intermittently in a closed chamber. In the former or continuous combustion type air is compressed and introduced continuously into a chamber where combustion takes place. It is necessary to cool the products of combustion before allowing them to reach the turbine blades, and excess air is used for this purpose rather than water (to avoid the loss on account of the latent heat). The compressor, therefore, handles more air than is required for combustion of the fuel, the excess depending on the operating temperatures desired. The compressor delivers air at from 20 to 30 lb. per sq. in. pressure and must have an efficiency of 75 per cent or above to make the unit capable of delivering any net power. If the product of turbine and compressor efficiencies is 70–75 per cent and the gas temperature at the turbine inlet is 1,000° F.,

a thermal efficiency for the unit of 15–18 per cent is possible. On the other hand, for the same inlet gas temperature and an efficiency product of 53 per cent the thermal efficiency of the unit is zero. Under the latter conditions the turbine develops just enough power to drive the compressor. So narrow is the margin within which these machines must operate! Thermal efficiencies in the 15 to 18 per cent range are obtainable if units are large enough to produce net outputs of 2,000 K.w. and above. Preheating the air with the turbine exhaust and the use of two or more stages with reheating will increase the thermal efficiency to 21 or 22 per cent.

The turbine is a four- or five-stage reaction type and the compressor has 10 to 12 stages. The unit is started by an electric motor which is on the same shaft with turbine, compressor and generator.

Under favorable operating conditions this gas turbine has an efficiency comparable with that of a steam plant of similar capacity. It requires no boiler and furnace, no condenser and pumps, and operates at high speed. It has a field of service where hot gases (the exhaust) are required for some industrial purpose or as a peak-load or stand-by unit. Because no water is required for its operation the gas turbine has interesting possibilities for locomotives and ships. For a locomotive of given size the gas turbine will generate more power than a Diesel engine.

### WATER POWER

The largest hydroelectric units in the world are the 115,000 h.p. machines at Boulder Dam. These turbines are of the Francis type, vertical shaft, with reaction runner, and operate under a head of 480 ft. However, a new record will be made by the turbines at Grand Coulee which will operate under a 330 ft. head and generate 150,000 h.p. each. (A steam unit still holds the horsepower record at over 200,000.)

The limiting factors on large size hydraulic turbines are the sectionalizing for transportation and the assembling in the field. The Boulder



turbines have casings of cast-steel sections with bolted flanged joints. Where plate-steel design is involved, with riveting or welding in the field, the problems of erection may become serious.

#### NEW RAILROAD LOCOMOTIVES

**Pennsylvania.**—An outstanding accomplishment of the year in Railway mechanical engineering was the construction of the locomotive "American Railroads" by the Pennsylvania Railroad Company. This locomotive was designed to handle trains of 1,200 tons maximum weight at speeds up to 100 miles per hour. Steam pressure of 300 lb. per sq. in. through four 22 x 26 in. cylinders and turning 84-in. drivers produces a rated tractive force of 76,400 lb. The boiler has a combustion chamber 9 ft. 5 in. long with a grate area of 132 sq. ft. and the tubes are 22 ft. in length. Wheel arrangement is 6-4-4-6.

**Union Pacific.**—A second outstanding accomplishment of the year was the completion and service operation of the Union Pacific Railroad's turbine electric locomotive. While somewhat less powerful than the locomotive just described, this machine is in many ways a pioneer on American railways. It was designed to haul a train of 1,000 trailing tons from Chicago to the Pacific Coast, a distance of 2,200 miles, in 56 hours, or a train of 500 tons from Chicago to Denver, 1,000 miles, in 16 hours. The locomotive has a top speed of 125 miles per hour and a normal maximum of 110 miles per hour. The turbine-electric arrangement permits starting and accelerating with the full power of the locomotive. The maximum starting tractive effort is 86,500 lb. while the normal rated tractive effort is 32,000 lb. for each unit, or double these values for the two-unit locomotive. Rated normal horsepower per unit is 2,500.

Boiler pressure is 1,500 lb. per sq. in. with a steam temperature of 920° F. The steam travels in a closed (condenser) system, the cycle time being 3½ minutes, and each unit has 3,000 lb. of water in the system. The boiler is equipped with water-cooled furnace

wall, economizer, superheater and air heater. The turbine is cross compound with two pinions driving a common gear. Turbine rotors run 12,500 r.p.m. and the gear, 1,200 r.p.m. The finned tube condensers are provided with fans for air circulation. Control of the locomotive is largely automatic and both electric and air braking are provided. When braking, the traction motors act as generators and deliver energy to a resistor which is built as a tube through which water circulates. This electric brake can hold a train at speeds from 20 to 70 miles per hour on a 2 per cent grade continuously without overheating. Water evaporated in the resistor is recovered in the main condensers. When preparing for operation the time required for this locomotive from "fire on" to "ready for service" is 16 minutes.

#### Diesel-Electric Locomotive Power.

—The year has seen the power of Diesel-electric locomotives increased to 2,000 horsepower per unit. The triple unit "Orange Blossom" has the largest rated power of any Diesel-electric in service. In addition to the three 2,000 h.p. main units there are auxiliary power generators which increase the total for all purposes to 7,800 h.p. Diesel-electric locomotives cost three to four times as much as steam locomotives of equal power. Their fuel economy, however, is three to four times as great. This comparison, of course, means little, if steam is generated by the combustion of low-priced coal.

#### MISCELLANEOUS

**Magnetic Flowmeter.**—A unique magnetic flowmeter has been designed by W. M. Lansford of the University of Illinois. The instrument consists of a short length of non-magnetic pipe inside of which a bar magnet is suspended by one end. This magnet hangs from a brass plug screwed in the top of the pipe and swings like a pendulum under the pressure of the moving fluid. A magnetized steel needle is mounted outside of the pipe in such a manner as to indicate the deflection of the bar magnet. No mechanical connection



## XIX. ENGINEERING AND CONSTRUCTION

is used. The most satisfactory material for the magnet has been found to be Alnico. The meter has given very reliable results when the angle of deflection is less than 50 degrees or the flow velocity not over six feet per second.

**Fruit and Vegetable Freezing.**—Progress in the quick freezing of fruits and vegetables was reported in the past year. Better results are claimed for the new method because of more rapid freezing than was possible under the plan which placed the material to be frozen in a thin layer between plates. The new method depends upon immersion in a freezing solution, which for small fruits contains invert sugar. Strawberries can be frozen in six minutes and peas in from 30 to 50 seconds. The rapid freezing produces small ice crystals without cell destruction. The product is arranged in a thin layer on a support which carries it through the freezing stream. The solution is recirculated and chilled to about 5° F.

**Windowless Factory.**—On June 28, 1939, the Simonds Saw and Steel Company put into use at Fitchburg, Mass. what is claimed to be the first windowless factory. It consists of a five-acre room with no partitions and completely air-conditioned. More than 14,000 100-watt fluorescent tubes provide shadowless light of 20 to 25 foot-candles at the working plane. Ventilation and air purification are serious problems, for the factory contains 70 heat-treating furnaces and more than 1,000 grinders, cutters and other machines. Dust is removed by 30 air filters, and 400,000 cubic feet of air are circulated per minute. Forty-two roof ventilators carry away the exhaust air. In summer, cooling is secured by the use of artesian well water at a temperature of 52 degrees.

**Noise Reduction.**—Reduction of noise has been accomplished by using walls of acoustic block and a cork-filled ceiling, which together absorb more than 90 per cent of the sound.

## ELECTRICAL ENGINEERING

BY CORNELIUS N. WEYGANDT

MOORE SCHOOL OF ELECTRICAL ENGINEERING, UNIVERSITY OF PENNSYLVANIA

### GENERAL

**Engineering Scope.**—The generation of electric power, the manufacture of electrical equipment, the use of electric power in industrial plants and for communication, and fundamental electrical research carried on both by colleges and universities and also by commercial organizations are all contained in the field of electrical engineering.

**Power Generation.**—The total electrical energy generated in the United States in 1938 was 109,000,000,000 kilowatt hours or about 5 per cent under that generated in 1937. Reports up to the middle of November 1939 indicate that the total power produced in 1939 will be about 10 per cent over that in 1938. During the last week of October and again in the first week of December approximately 2,540,000,000 kilowatt hours were gen-

erated. This is the most electricity ever produced in a single week in the United States. In spite of the decrease in power generated in 1938 the installed generating capacity was increased about 4 per cent. During 1939 the increase was undoubtedly greater, but complete figures were not available in the middle of November.

**Electrical Manufacturing.**—Three of the largest manufacturers of electrical equipment showed an increase over 1938 in orders booked for the first nine months of 1939 of 41 per cent, 32 per cent, and 19 per cent respectively, showing that the rapid recovery of the electrical industry, which started in the last three months of 1938, has continued on into 1939.

### ELECTRICAL MACHINERY

**Motors and Generators.**—An interesting development in the design

of motors is the use of a refrigerant circulating through pipes in the frame of the motor for cooling purposes. The first application was in a large motor-driving air-cooling machinery where refrigerant was readily available. Its success was such that it seems likely it will receive more widespread acceptance. The greatest advantage will be achieved where motors are for use in crowded locations, since a refrigerant-cooled motor occupies less space than an air-cooled motor.

Another motor improvement is a method of casting copper squirrel cage windings directly in holes provided in rotor laminations. Aluminum windings of this sort have been cast for a number of years, but copper windings which are necessary in some types of motors because of the lower resistance of copper have always been built of bars and rings brazed or bolted together. The new method of construction makes both a better and cheaper winding.

The continued success of hydrogen cooling for large turbine-driven alternating current generators is making possible the construction of high-speed machines of larger sizes. A few years ago a 3600 r.p.m. generator rated at 25,000 kva. was considered very large. In 1939 one 75,000 kva. machine is on order, and manufacturers are in a position to build them in sizes up to 80,000 kva.

**Transformers.**—A method has come into use in the past year for filling transformers in a vacuum which insures against the presence of air or gas bubbles both in the oil and in the solid insulating material. This means longer life for the transformers because the presence of gas bubbles often starts the deterioration of the insulation. Transformers with dual windings on the same core operating in parallel have been found helpful in improving system stability. This in a way is an extension of the idea of double-winding generators which have been used for a number of years. Completely self-protected distribution transformers are now on the market. These transformers have lightning arresters and fuses built as an integral part of the transformer.

This simplifies installation and insures the proper coordination of the various elements.

**Switchgear.**—The year 1939 witnessed increasing use of circuit breakers without oil. Air circuit breakers for use on 2300-volt circuits were previously almost a novelty. Now they are available for 15,000-volt circuits with interrupting capacities up to 1,500,000 kva. Further knowledge of the process of arc interruption means of controlling arcs with magnetic fields and properly placed baffles have made these developments possible.

**Automatic Switching.**—Starting and stopping of electrical machines, especially very large ones, is a complicated procedure which, if done manually, requires a highly skilled operator. On this account more and more of the recently installed equipment is furnished with automatic devices either as an aid to the operators or in some cases to avoid completely the necessity of having an operator always present. One of the most difficult operations is the starting and synchronizing of large frequency converters for changing alternating current from 60 to 25 cycles. A recent frequency converter installed in the Maryland plant of the Bethlehem Steel Company was furnished with complete automatic starting synchronizing and speed control equipment.

**Electric Welding.**—There are two basically different processes for welding metals both of which use electric current. The first is resistance or spot welding in which the metals to be joined are held in close contact while a heavy current is passed through the joint. The current is sufficient to melt the metal so that the two pieces are fused together. One of the principle uses of this type of welding is in the fabrication of parts from thin metals such as stainless steel and aluminum alloys. Its development in the past few years has made possible the new streamlined trains and all metal airplanes. Its use demands accurate control of the welding current, which is frequently done by means of electron tube circuits.

The other type of welding is done by means of an electric arc. In this

case the current flows in an electrode, and an arc is drawn between the metal of the joint and the welding electrode. The electrode is melted, and metal from the electrode is deposited in the joint. Arc welding may be accomplished by either direct or alternating current. Until recently direct current arc welding has been favored but a-c welding has made great strides. This has been due both to the development of better welding electrodes and new types of arc welding transformers.

### TRANSMISSION AND DISTRIBUTION

#### Direct Current Transmission.—

For the past few years engineers have been talking about the possibilities of high-voltage direct current transmission. This type of transmission is desirable because nearly twice the power can be transmitted over the same wires, because of its higher efficiency, and because of its good stability characteristic. Its disadvantages are the additional equipment which is necessary to convert from a-c to d-c and the sending end, and then back to d-c again at the receiving end.

In the past year a report of two years' operating experience on an experimental d-c transmission line was made public. The line is rated at 5000 kw. and 27,000 volts. Hot cathode mercury vapor tubes are used in the a-c to d-c conversion at both ends. The tubes are all still in good condition after two years of service. The behavior of the line under lightning strokes is very good. The success of this line has encouraged further experimentation. The engineers in charge of the Bonneville Dam project are undertaking an extensive investigation of d-c transmission in the hope that it may prove a practical means of distributing Bonneville power.

**Lightning Protection.**—Protection of high voltage lines against lightning has always been one of the most difficult problems of power transmission. A new means of studying the behavior of natural lightning has been developed in the past year. It is

called the "fulchronograph" and consists of a number of small permanent magnets mounted on a rapidly revolving disc. The instrument is so arranged that a lightning stroke magnetizes the magnets to correspond with the current variation during the discharge. An analysis of the magnets enables engineers to reconstruct the lightning stroke. A study of these records shows that a stroke consists of three parts. First there is a rapid rise in voltage. This is followed by a high current of short duration. The third region is a much lower current of long duration compared to the first two. There seems to be good indication that the third region is largely responsible for the destructive effects of lightning. A new type of surge generator was built in the past year which enables all three of these characteristics to be reproduced artificially in the laboratory. It will be used not only for lightning research, but also for production tests of transformers, lightning arresters, and other equipment.

**Removal of Sleet.**—Another operating hazard of transmission lines is the formation of sleet on the wires which, especially when accompanied by high wind, may do serious damage. It has been customary for some years to pass heavy currents through the wires during sleet storms to melt off the ice. This is usually done with a reduced voltage with special equipment. One large operating company tried melting off sleet at full line voltage, using one of its regular service generators. The trial was very successful and has been adopted as standard practice. The same company has also found that it is possible to detect the presence of sleet on the wires by the behavior of the carrier current telephone system used for communication over the line wires, a device for measuring the attenuation or loss of strength of the signals transmitted over the wires. The formation of ice on the wires causes a sudden increase in attenuation, which warns the operators that it is time to take steps for melting off the ice.

**Distribution.**—Regulating trans-



formers on distribution circuits which maintain constant voltage at the transformer have long been in use. During the year voltage boosters were installed in many circuits. These actually raise the voltage at the transformer at times of heavy load in order to compensate for the voltage drop in the line between the transformer and the load.

**Rural Electrification.**—The activities of the Rural Electrification Administration continued to expand during 1939. By employing new construction methods and taking advantage of new equipment offered by manufacturers for rural electrification, the cost of rural transmission lines has been reduced in some instances to less than \$700 per mile. Nearly \$100,000,000 was allotted to various projects throughout the country by the Rural Electrification Administration during 1939.

#### ELECTRICITY IN TRANSPORTATION

Of especial interest during 1939 was the completion of the first turbo-electric locomotive built for the Union Pacific. This locomotive is an electric power plant on wheels. It carries its own boiler which generates steam at 1500 lbs. pressure and 920° Fahrenheit. The steam drives a turbine which is geared to the electric generator. The generator supplies current to six driving motors which develop 5000 horsepower. The steam is condensed and the water returned to the boiler, which makes it possible for the locomotive to run from 500 to 700 miles without stopping for water. The locomotive is intended to haul passenger trains consisting of as many as 12 standard Pullmans and coaches between Chicago and the Pacific Coast over 2.2 per cent grades without a helper.

The use of more lighting and air conditioning has greatly increased the burden on the generating systems of railway cars, so that the old axel-driven generators are inadequate for the needs of modern cars. An interesting development of the year was a gas engine driven generator for car lighting. This generator makes the

car an entirely self-contained unit and insures an adequate power supply whether the car is in motion or standing in a yard or station. In order to use some of the modern lights, especially the fluorescent type, it is necessary to have a supply of alternating current. To obtain this in cars equipped with direct current generators a vibrating type inverter for car use has been developed.

Diesel electric-locomotives are still gaining favor as they have for the past few years. An interesting application in 1939 was on the cog railway on Pike's Peak, where a diesel-electric pusher type locomotive has replaced the old tilted boiler steam engines.

An indication that large mercury arc rectifiers have passed the experimental stage is given by the fact that the New York Central has installed a 3000-kw. 640-volt ignitron type rectifier in New York City. This is the first time a mercury arc rectifier has been used for trunk line electrification.

A new use of electricity in railroad-ing was the installation of electric snow melters in one large freight yard. Heating elements were clamped to the sides of the rails and track switches, which make it an easy job to keep the switches working under the worst conditions of snow and ice.

#### METERS AND INSTRUMENTS

The outstanding trend in the development of new instruments in the year was toward convenient direct reading devices employing vacuum tubes. Such instruments are now available for measuring voltage, resistance, and capacitance, for testing faulty cables, and for many other special purposes.

A new high-voltage fault tester has been developed which permits the accurate location of high resistance faults without the necessity of "breaking down" the faults and possibly doing further damage to the cable. It is compact and readily portable and also easy to use.

An interesting torsional vibration meter is provided with a permanent magnet of considerable moment of inertia which is free to rotate within



## XIX. ENGINEERING AND CONSTRUCTION

a revolving field attached to the shaft whose vibration is to be studied. As long as the rotation is uniform the magnet revolves at a constant displacement with respect to the field. When torsional vibration is present the magnet will oscillate with respect to the field. These oscillations produce a variation in the current flowing in the field coils. The field current can be recorded by means of an oscillograph so that the nature of the torsional vibration may be studied.

Another new device developed in the year was a pressure indicator for studying variations in the pressure inside the cylinders of internal-combustion engines. A Piezo-electric crystal is used to change the varying pressure to a varying electric current which can be measured and recorded.

In order to study the division of power and reactive kva in distribution circuits a portable var-meter which can be clamped on the conductor by a lineman without disturbing the circuit in any way was put on the market. For measurement of power, totalization of power in a number of circuits, or measuring the power in a circuit located some distance away, new use has been made of an old principle. This is a device called the Thermovert, which, by the use of thermocouples and heaters, gives a reading in millivolts which is proportional to the total power in a three-phase circuit.

An outstanding instrument development in the year was the terrain clearance meter invented by Lloyd Espenschied of the Bell Telephone Laboratories. This device enables an airplane pilot to tell at all times the distance of the plane from the nearest object within a hemisphere below and around it. The plane carries a short-wave radio transmitter which sends out signals that are reflected from the nearest object. A receiver catches the signals which have a continuously varying frequency. This means that the transmitted and reflected signals always differ in frequency by an amount which is proportional to twice the distance from the nearest object. These signals are combined and supplied to a meter

which reads the difference in frequency and can be calibrated to read directly in feet. So sensitive is the device that a difference in the reading of the meter can be noticed when the plane passes over an object like a gas tank or a large building. It should be of tremendous importance in increasing the safety of airplane operation in foggy weather.

### ELECTRICITY IN MEDICINE

During the year many electric aids to doctors and surgeons were developed through the cooperation of electric engineers and physicians. A new powerful x-ray apparatus was built at the Massachusetts Institute of Technology for the Massachusetts General Hospital. The x-ray tube is enclosed in a steel casing filled with gas under ten atmospheres pressure. The dielectric strength of the high pressure gas is such that the size of the apparatus has been greatly reduced and at the same time its usefulness increased.

Electroencephalogy, or the study of brain diseases by electrical means, has been made more effective by sensitive amplifiers and recorders recently developed at the New York State Psychiatric Institute. Television has entered the medical field, and operations have been televised so that persons outside the operating room can see what the surgeon is doing almost as well as he can see himself.

Electrical aids to the deaf were greatly improved in the past year. The audiphone, a portable microphone amplifier system worn by deaf people, has been made smaller and lighter by the use of molded bakelite cases, and its performance improved by the use of new types of permanent magnets. The audiometer, which tests the hearing and helps diagnose the cause of deafness, was also improved by developments made during 1939.

### ILLUMINATION

The greatest strides in illumination in the year were toward greater use of fluorescent light bulbs. The use of fluorescence was especially striking in producing lighting effects at the World's Fairs in New York and San

Francisco. New and beautiful decorative lighting was achieved both through the use of fluorescent bulbs and by floodlighting surfaces coated with fluorescent paint, with "black" or invisible light. Fluorescent lighting is proving useful for permanent lighting installations in stores and factories as well as in spectacular display lighting. Because of its greater efficiency it is possible to get illumination as high as 50 or even 100 foot-candles without overheating.

The following figures were presented in an address before the Illuminating Engineering Society by its president, D. W. Atwater. In 1906 1,000,000 lumen (light unit) hours cost \$18.68 and in 1939 the same amount of light cost only \$3.26. Since 1913 the average level of illumination in industrial plants increased from 3 to 7.5 foot-candles, in offices it increased from 3 to 9.5, and in shop windows from 18 to 150. The average foot-candle level in all locations increased  $2\frac{1}{2}$  times from 1913 to 1939. In spite of this the average home is still not nearly as well lighted as it should be.

A new type of photoflash bulb has been developed for use with the small "candid" cameras that have become so popular. The shutters of many of these cameras require longer and more uniform flashes, which are obtained from the new bulbs.

### ELECTRONICS

A new electron tube called the permatron was made commercially available during 1939. This tube is magnetically controlled and performs the same functions as the more familiar thyratrons and ignitrons. Some of the recent applications of this tube have been in telegraph relays, automatic battery chargers, and devices for flashing and fading neon signs. New tubes called rhumbatrons and klystrons were developed for producing ultra high frequencies by effectively bunching streams of electrons moving at a high velocity which produces a very rapidly varying current.

A new type of tube for the "eye" of television transmitters was recently perfected. It is called the orthicon,

and uses a magnetic field to control the electrons in a way which avoids spurious signals and produces an output current which is linearly related to the light input. The tube produces clearer and more sharply defined television signals.

A new kind of cathode ray tube has been developed which has two additional rings near the screen end of the tube, to which an accelerating potential is applied. By this means the intensity of the beam is considerably increased. A complete cathode-ray oscillograph using a tube of standard design with a screen nine inches in diameter is now on the market; it has been developed especially for use in adjusting television receivers.

### TELEPHONY

The United States has been the leader in the use of the telephone ever since its invention and is still setting the pace. According to the latest available census there are nearly 40,000,000 telephones now in use in the world of which nearly half are in this country. It is estimated that some 3,000,000 more were added in 1939.

On Dec. 20, 1938, short wave radio telephone service direct to Australia was inaugurated. On June 1 service was started to the Malay Peninsula by way of Singapore. The latter service had to be suspended on account of the war in Europe, but was soon resumed through new channels in Rome and Amsterdam.

In the United States 1939 saw a much greater extension of the new 12-channel carrier system which allows many more conversations to be carried on over existing pole lines and cables. Another interesting development was the installation of a commercial coaxial telephone cable between Stevens Point, Wis. and Minneapolis, a distance of 195 miles. While a similar experimental cable had been in use between New York and Philadelphia for some years, this is the first time a commercial installation has been economically justified. The new cable will be capable of carrying 480 simultaneous conversations and will

be in partial operation in 1941. The carrier frequencies will cover a band of 3,000,000 cycles as compared with 2,000,000 in the experimental cable. Conventional telephone circuits require about 20 vacuum tubes per channel for a distance of 200 miles, while the coaxial cable will require only six tubes per circuit.

For shorter telephone lines, particularly in rural districts, a new galvanized steel wire has been developed which, because of its greater strength, permits poles to be spaced from 350 to 450 feet apart instead of the 200-foot spacing required by the older iron wire. Rubber insulated wire which can be buried in the ground without any extra protection is gaining greater favor. At the end of 1939 it was estimated that there were 7,000 miles of such wire in use in the United States.

Copper oxide rectifiers for use in telephone modulators to replace vacuum tubes are being widely used. Recent developments have made them much less expensive, and they are simpler and occupy less space than vacuum tube modulators.

A recent development of the Bell Telephone Laboratories formed the center of attraction at the Telephone exhibit at the World's Fair in New York. It is called the "voder" and is a device for producing voice sounds electrically. By means of this device it is possible for an operator to produce intelligible speech from a keyboard similar to that of a piano. The keys form the different vowel and consonant sounds which can be fitted together to produce understandable words. In addition to making a fascinating exhibit the voder will help to improve telephone transmission because of the knowledge of voice sounds which was gained in its development.

Another aid in the study of sound development in the year was a new optical analyzer which breaks a complex sound wave up into its fundamental note and 30 harmonics. The magnitude of all these components can be obtained with the aid of the machine.

An audio-frequency spectrometer

has been built which, by the use of filters which charge condensers to voltages proportional to various frequencies in a sound wave, make it possible to view continuously an almost instantaneous analysis of the sound wave on the screen of an ordinary cathode ray oscillograph.

### **ELECTRODEPOSITION**

An interesting new method of fabrication has been recently developed. It can be used for making very fine screens and very thin sheets of metal, and complicated hollow objects such as automobile radiators. In this method the metal is deposited electrolytically on a core of some material which has a low melting point. After the deposited metal has reached a sufficient thickness, the material on which it was deposited can be melted away, leaving the shell of deposited metal.

### **ELECTRICITY IN OIL PROSPECTING**

Highly refined electrical devices have been used for some years as modern "divining rods" to be used in prospecting for oil. During 1939 a new electrical method was added to the other three in common use. The older methods are, first, a study of the behavior of electrical transients between electrodes sunk in the ground which will often indicate the structure of the ground between the electrodes. The second method is to make accurate measurements of the resistivity of the ground. The third is a seismic method recently greatly improved by refinements in electric seismographs. The new method consists of a device for measuring the gamma-ray radiation at different levels in a test boring. It has been found that there is much less gamma-ray radiation from porous oil-bearing sands.

### **LOCATION OF BURIED OBJECTS**

A device was developed in the year which is of great assistance to contractors making excavations in city streets. It is a device for electrically locating buried metal objects, such as gas and water mains, and thus avoiding the chance of the pipes being



damaged by steam shovels or trenching machines.

## RESEARCH

Every year engineers spend many hours on investigations of the behavior of new materials as electrical conductors or insulators, and on other fundamental electrical problems, with no other idea in mind than that of increasing knowledge of electricity. Very frequently they make discoveries which turn out to be of great general interest, in addition to their scientific importance.

One of the most interesting of these researches which is going on at present is a study of the behavior of metals at very low temperatures. From these studies it seems to be definitely proven that, near absolute zero temperature, certain metals have no electrical resistance. Work of this sort done at Massachusetts Institute of Technology by Frederick Keys has confirmed earlier work done in Holland that the resistance of lead of 13° absolute is equal zero.

Another interesting investigation in the Research Laboratories of the Gen-

eral Electric Company has shown that very thin films of certain substances like barium stearate have unsuspectingly high dielectric strength. In order to measure the thickness of these films a thickness gauge has been developed that is accurate to within the width of two molecules.

In order to study the behavior of electric arcs a high-speed camera has been developed which will take as many as 120,000 pictures per second.

Great advances have been made of the use of synthetic materials as insulators. Some of these, such as polymerized styrol and styrene, are solid transparent substances resembling glass in appearance but more like bakelite in texture and chemical composition, which can be molded into almost any shape. By the addition of suitable solvents, they can also be used as insulating laquers. These substances are particularly good as insulating materials because of their low dielectric loss. Synthetic rubbers are being used more and more as wire insulation. In many instances their properties, such as resistance to oil, make them better than natural rubber.

# RADIO

By LEWIS M. CLEMENT \*

RCA MANUFACTURING COMPANY, INC.

## FEATURES OF ENTERTAINMENT RECEIVERS

**Antenna Systems.**—The self contained receiver, requiring neither the usual external antenna nor ground, was an outstanding feature of 1939's line of entertainment receivers. The loss in antenna pick-up was in many

\* The author wishes to acknowledge the assistance received in the preparation of this article from the following engineers of the RCA Manufacturing Co., Inc.: C. M. Burrill, E. T. Dickey, R. D. Duncan, E. W. Engstrom, W. L. Garnett, O. B. Gunby, W. B. LaChicotte, G. A. Morton, W. M. Perkins, J. S. Pearce, J. D. Phyle, F. X. Rettenmeyer, and J. E. Young; also C. E. Pfautz who supplied data on the U. S. broadcasting station assignments, and Dr. C. B. Jolliffe who provided material on the F.C.C. television report.

cases compensated for by means of an untuned r-f stage. Loop and power line antennas were chiefly used in these receivers. The loop antennas, in some cases shielded to avoid line interference, were often made rotatable to counteract the directive characteristics of the loop. The power line antennas were in some cases used in place of loops, utilizing the r-f signal usually present in the power wiring. Rod antennas were introduced in automobile receivers. Some use has been made of a vacuum lift for raising and lowering these antennas from inside the car.

**Tuning Systems.**—The push-button tuning feature continued in almost universal use. The mechanical tuning



## XIX. ENGINEERING AND CONSTRUCTION

systems were improved and introduced in higher priced receivers. A refinement introduced in automobile receivers was solenoid tuning, where a solenoid operated by push-button contact produced the actual force required to tune the receiver. Pre-tuned circuit systems were arranged in various ways to facilitate the setting up of stations. Motor-tuned systems continued in use on high priced receivers. Inductance tuning systems using magnetic cores were used more extensively, particularly in automobile receivers. Magnetic core tuning is not new, having been used commercially prior to 1920, but the trend changed to capacitance tuning with intensive development thereof. As has been often the case, the cycle appears to be reverting to magnetic core tuning.

**Cabinets.**—The increased use of plastics in cabinet manufacture was the most notable feature in the cabinets of the year's receivers.

**Portable Receivers.**—These gained wide acceptance with the outstanding feature that some were designed to operate on house current as well as on batteries.

**Phonograph Combinations.**—Phonographs, with and without radio, continued to gain in public interest. This movement has been furthered through the continued sale of inexpensive record players. A feature of the year was the introduction of a better lid seal to minimize the record noise.

**Automobile Receivers.**—Automobile receivers continued to be sold exclusively as an accessory, nearly all being mounted behind the instrument panel with the loudspeaker operating through louvres in this panel or downward from the receiver.

**Receiving Tubes.**—The trend towards smaller tubes, together with the interest in small portable receivers, resulted in the introduction of miniature battery tubes. Single ended tubes were introduced to lower tube cost and facilitate receiver wiring. High mutual conductance tubes were introduced for use in untuned r-f stages.

### SALES OF RADIO AND ALLIED EQUIPMENT

The following figures, quoted from *Radio Retailing*, show comparative sales of radio equipment for the years 1937 and 1938.

Product	1937	1938
Units Sold.....	8,283,295	6,295,000
Types on a Basis of Percentage of Total Units		
Table Models....	48	61
Console Models..	34	19
Phonograph Combinations..	1	6
Auto Radios.....	17	14
Tubes		
Total Unit Sales..	92,000,000	72,000,000

The points of interest in this tabulation are the upward trend in table models and phonograph combinations.

### FREQUENCY MODULATION

The development of frequency modulation continued during 1939. The most immediate field for its use is that of ultra high frequency broadcasting. It is also applicable to point-to-point communication such as police and aviation services. Because of its inherent characteristics, frequency modulation enables reception with a great degree of freedom from electrical noise disturbances such as produced by automobile ignition systems, x-ray apparatus, sparking motors, and the like. Operation of a number of frequency modulation broadcasting stations was started during the year. All such stations are now operating on experimental licenses, as commercial licenses have not as yet been issued by the Federal Communications Commission.

Commercial forms of frequency modulated broadcasting transmitting and receiving equipment are available on the market. The transmitters are characterized by the low-power exciting equipment with which frequency shift or modulation is accomplished. Two types of frequency modulation broadcast receivers have been made available, one permitting of frequency modulation reception only and the other of both frequency and amplitude modulation reception.

## TRANSMITTERS

**Broadcast Transmitters.**—Further improvements in transmitter fidelity and efficiency were made during 1939. Transmitters having over-all distortion of less than 1 per cent in the middle register, and over-all efficiencies from power line to antenna of 40 per cent, were placed in operation during the year. These transmitters ranged in powers from 250 watts to 100 kw. The use of air-cooling for high-power transmitter tubes was extended to transmitters of higher power, permitting the realization of greater operating economies and simplified construction.

**Short Wave Transmitters.**—War propaganda among the belligerent and neutral countries has accelerated the development of high-power short-wave transmitters. To deliver a more reliable signal in other countries, the power of a number of short-wave broadcast stations in the United States has been increased. In 1939, for the first time, the Federal Communications Commission permitted the handling of commercial programs by short-wave stations.

**Antennas.**—The use of guyed masts and towers, both tapered and straight-sided, has become practically universal among broadcast stations. Some experimental work has been done on the Franklin antenna in the hope of obtaining still greater signal strengths.

**Crystal Development.**—Inexpensive crystals and holders have been produced for use in receiver circuits, both as wave filters and heterodyne oscillators. There has been an increase in demand for high frequency crystals because of the increased use of ultra high frequency transmitters. Increasingly stringent tolerances on crystals for all classes of service have necessitated improved technique in crystal manufacture and testing.

**Transmitter Tube Developments.**—During 1939 still higher power beam tubes and screen grid tubes were developed for ultra high frequency transmitters. One screen grid tube featuring air blast cooling, fernico seals, and 2-kw peak power output at frequencies up to 108 Mc (mega-

cycles) was made commercially available.

**Television Transmitter Development.**—A high-power television transmitter has been installed by the Columbia Broadcasting System in the Chrysler Building in New York. A mobile relay transmitter has been made commercially available.

## POLICE RADIO

**Transmitters.**—Low-power, 30 to 40 Mc mobile transmitters have become standard for talk-back circuits. These equipments are usually of two-unit design sufficiently compact to be mounted in the rear trunk of a cruiser car. In many integrated systems a similar equipment is used at the station house for the other end of the circuit. Higher power ultra high frequency transmitters have been made commercially available, and a number of installations of 250 watt and 500 watt equipments have been made.

**Receivers.**—Numerous improvements have been made in receivers, particularly those used for ultra high frequencies. These improvements include selectivity, improved stability, obtained by the use of crystal controlled oscillators, and the use of noise reduction limiters and noise compensating circuits.

## AVIATION RADIO

**Transmitters.**—The trend started during the year by the commercial air lines in increasing the power of their ground station transmitters has continued with numerous installations of 2-kw and 4-kw telephone transmitters having been completed. There is a trend toward the transmitters used at all major terminal points being in this power category. A 126-145 Mc transmitter of 15 watts output was developed. This frequency band shows great promise for the reduction of rain static and other forms of interference.

**Receivers.**—Small receivers have been developed for the itinerant flier, compact enough to be mounted so that they may be locally controlled by the pilot. Separate receivers are often used for beacon indicators and for communication. The beacon re-

## XIX. ENGINEERING AND CONSTRUCTION

ceivers are provided with a switch, permitting their use at 278 kc for traffic control. Communication receivers are provided with two crystals for crystal controlled reception on two communication frequencies.

**Direction Finders and Radio Ranges.**—A satisfactory radio compass, which will permit taking a continuous bearing on any selected station with reference to either the ship's head or to magnetic north, has been developed and put into commercial use. A vertical antenna and loop are used with the radio compass, although under conditions of severe rain static, two shielded loops may be used advantageously. In the latter case a 180-degree ambiguity exists in the bearing indication.

### BROADCASTING STATIONS

As of July 1, 1939 the broadcasting stations in operation and authorized in the United States were as follows:

1. Number of Clear Channel Stations....	108
(Number of 50 KW — 35)	
(Number of 25 KW — 2)	
(Number less than 25 KW — 71)	
2. Number of Regional Channel Stations.	293
3. Number of Local Channel Stations....	328
Total Stations.....	729

### TEST EQUIPMENT

**General.**—Broadcast frequency monitors of improved stability and accuracy have been made available. Frequency limit monitors which will permit of checking the frequency of a transmitter within any desired limits are in commercial production. These monitors may be used at any frequency between 1.6 and 40 Mc. An ultra high frequency field intensity meter with a frequency range of 20 to 125 Mc and a sensitivity range of 20 microvolts to two volts was made commercially available.

**Television.**—Service and laboratory equipment for testing of television equipment have been marketed. Methods for the generation and use of square waves for circuit analysis were developed.

### TELEVISION

Regular television service to the metropolitan New York area from a

transmitter on the Empire State Building was inaugurated on an experimental basis on April 30, 1939 with fanfare coincident with the opening of the New York World's Fair. At about the same time television receivers were offered by a number of manufacturers for sale in the New York area. Transmissions have averaged approximately 11 hours per week of entertainment features plus a somewhat greater number of hours of test pattern signals. Much work has been done on the development of program production technique and a systematic study of audience reaction to individual programs. Transmissions have been in accordance with the standards recommended by the Radio Manufacturers Association. Technical performance was considered satisfactory. The antenna is of a type having an uniform impedance over a band greater than one television channel as a result of its unusual configuration. The vestigial sideband signal is obtained by a special filter network at the output of the transmitter. A second New York station was nearly completed. Experimental transmissions were also available in the Los Angeles, Chicago, Philadelphia, and Schenectady areas. Television demonstrations were features of both the New York and San Francisco World's Fairs, and attracted large crowds at other places.

Announcement was made of the development of a new type of pickup tube, which uses a low velocity electron scanning beam with resultant great improvement in image quality through the elimination of extraneous signal components. Programs picked up at points remote from the studio have become so popular that a new type portable equipment in suitcase form has been developed, manufactured, and put into service in the New York and Los Angeles areas. Some of the cameras for this service use a small iconoscope to make possible a small and light unit. A number of simplified television studio systems were built and used at fairs and exhibitions. It was found practicable to use short lengths of selected regular telephone circuits for the trans-



mission from the remote point to the transmitter. A beginning was made in industry cooperation toward reduction of various types of interference to television and other ultra high frequency services.

## F.C.C. TELEVISION COMMITTEE

During 1939 a committee of the Federal Communications Commission, consisting of Commissioners T. A. M. Craven, chairman; Norman S. Case, and Thad H. Brown, made an extensive study of the status of television and issued two reports, one concerning standards, published May 22, 1939, and a second report dealing primarily with the commercial aspects of television, published Nov. 15, 1939. The first report was adopted by the Commission, and the second report has been tentatively adopted subject to exceptions to be presented at a hearing Jan. 15, 1940.

The Radio Manufacturers Association has, over a period of years, developed a set of standards for the operation of television transmitting stations and the construction of television receiving sets which makes possible the proper operation of a complete television system. This Association recommended that the Federal Communications Commission adopt this set of standards. The Committee in its first report recommended that the Commission not adopt the standards, but that it recognize the standards for the operation of stations.

In the reports the development of television is divided into the following broad stages: (a) technical research, (b) experimental operation, (c) construction of transmitting stations throughout the nation and operation of television as a service to the public on a sound, economic basis. The second report of the Committee points out that at the present time television is in the second or experimental operation stage of development and that full authority should not yet be given to stations to enter into the final stage or the furnishing of regular television service.

In order that the industry may determine the public acceptance of

television and the value of its use by advertisers, the Committee recommends that a new classification of stations (Class II) be authorized to experiment in the production of television programs in contrast to stations (Class I) which are authorized for research and experimentation of television in its technical phases. The Class II stations are authorized to make charges to cover the cost of program production, thus making it possible for these stations to obtain financial assistance in the development of program service. The stations are required to maintain a minimum program service of five hours per week.

Class I stations are limited to research and development, but are given greater freedom of operation in this field. The Committee recommends a new set of rules to govern the operation of both classes of stations and sets forth the requirements for obtaining an authorization for the operation of television stations. The report recommended the recognition of the television standards recommended by the Radio Manufacturers Association with the provision that the Commission will recognize a modification of these standards upon a showing by the applicant that it would be in the public interest to require all stations to adopt the proposed changes.

It is the opinion of the Committee that the relaxation of the rules concerning commercial operation and the granting of additional applications for stations throughout the country will permit television to develop rapidly, but that further consideration should be given to the developments before stations are authorized to go into the third or final stage of complete commercial operation.

## FACSIMILE

Progress in the field of broadcast facsimile has come chiefly in increased operation of existing equipment by the broadcasters with resulting experience in the techniques and possibilities of the system. There has been a growing tendency to supply the services by u.h.f. channels rather



## XIX. ENGINEERING AND CONSTRUCTION

than in the broadcast band during the night, most of the recent installations having been made on this basis. Effort has been directed toward increasing the amount of information transmitted and recorded per minute. Page width and recording speed has been increased to accomplish this result. A new system of facsimile using sub-carrier frequency modulation was placed in regular service between New York and London with much improved picture quality in the presence of selective fading and noise.

### SHORT RADIO WAVES

Increasing use was made of frequencies in the order of 30 to 40 megacycles for sound broadcasting and facsimile experimentation. The beginning of scheduled television transmissions was on the lower channels in the 44- to 108-megacycle band. Remote pickup of television programs was relayed to the main broadcasting transmitter at frequencies between 150 and 200 megacycles. Additional apparatus for this remote television pickup went into use late in the year, operating at a frequency of about 300 megacycles. Experimental work was carried out in the fields of aircraft navigation and communication throughout these short wave bands.

An outstanding development of the year was the utilization of beam devices in short wave tubes. A number of laboratories have designed successful amplifiers, detectors, and oscillators incorporating this feature. Publications have described amplifier tubes for developing an output of 100 watts or more at 500 megacycles and oscillators which have an output of 400 watts at 750 megacycles.

A type of circuit particularly applicable for high frequency work is being intensively investigated. This circuit may be thought of as a single turn enclosed inductance with an attached capacitance or as a complete wave enclosure. It has proved useful because of the high Q which can be

developed and the concentration of field which is available either for acting on electrons in a tube or for taking energy from a variable electron stream.

Publications have described additional experiments with horn type radiators, and field tests have been made using such radiators with frequencies as high as 750 megacycles for glide path beams and markers in aviation.

### ACOUSTICS

Loudspeakers with improved frequency range, obtained by a double cone construction, were used in broadcast receivers. A microphone so sharply directional as to require pointing at the sound source like a gun was developed and described in the technical press.

### ELECTRONIC RESEARCH

Electron Optics, during the past few years, has proved itself to be of the utmost value to radio, television, and electronic research. The electron microscope is a direct outgrowth of research in this field. This instrument, although still in its infancy, appears able to make contributions in the realm of biology, colloidal chemistry, and bacteriology, because of its inherently much greater resolving power, as compared to the light microscope.

The "Orthicon," an iconoscope using a low-velocity scanning beam, owes its existence in part to the study of electron optics. This tube not only is more sensitive than the normal iconoscope, but it also effects a number of other important improvements.

In the field of amplifier tubes, both for high- and low-power, electron optics is playing an increasingly important role. Research in tube design during the year was particularly fruitful, as witness the many new tubes which have been developed for the transmission and reception of radio and television.

## TECHNICAL PROGRESS IN SOUND EQUIPMENT

By LEWIS M. CLEMENT

RCA MANUFACTURING COMPANY, INC.

### SOUND MOTION PICTURE RECORDING AND REPRODUCING

As during 1938, the year 1939 was characterized by a continued improvement in the performance characteristics of the apparatus used and this resulted in substantial gains in the quality as heard in the theatres. Microphones having unidirectional characteristics are finding increased use for dialogue pick-up. Volume compression continues to be a helpful means of improving intelligibility and reducing the effects of undesirable set reverberation. Several studios are experimenting with improved methods of recording original track. One method being tried is a double width track and another is a Class B push-pull track. Interest in 16 mm. direct recording has resulted in the design of 16 mm. recording machines.

Close contact with the desires of the public by the industry as a whole has showed a marked betterment in exhibition facilities for 35 mm. films. This, together with active research in all fields, has precipitated a demand for developments during the coming year which will undoubtedly result in still more life-like reproduction.

### BROADCAST SPEECH INPUT EQUIPMENT

Continuous progress toward improved and simplified units was made in broadcast studio equipment during 1939. Marked interest and activity have been shown in transcription recording and reproducing work. A new combination pick-up was introduced that reproduces from vertical or lateral cut records. Recording assemblies for studio or portable use have been made easier to operate and more reliable in operation. Lacquer discs are much improved and more uniform

in quality. Cutter heads now record over a wider frequency range and with less distortion. A great deal of development work was carried on with equalizers, limiters, compressors, automatic audio gain controls, etc., in obtaining improved recordings.

Consolettes continued to be the most popular form for assembled studio amplifier equipments. Portable amplifiers were introduced that were more compact in size and yet more easily serviced.

### COMMERCIAL SOUND

New electric carillons have been introduced which are becoming very popular with churches and musical organizations. These are small units which produce bell-like tones from metal reeds. These tones may be amplified to any desired degree.

In amplifiers there is a trend toward higher power output, greater flexibility, improved styling, and better performance characteristics.

Considerable progress has been made in instantaneous recorders. This includes greater flexibility, for a wider variety of uses, and improved drive mechanisms.

Loudspeaker mechanisms with greater sensitivity and improved performance characteristics have been developed. Special attention has been given to the cone and field structures in order to attain these ends.

There was considerable activity during the year in inter-communication systems. Here the trend appears to be in the direction of more flexible units for making up larger systems having more features, such as more compact design and greater flexibility of communication between stations.

## AUTOMOTIVE ENGINEERING

BY THOMAS A. BISSELL

TECHNICAL EDITOR, *SAE Journal*

## NEW FEATURES IN DESIGN

An unusual number of things were done in 1939 to make passenger cars still safer, more comfortable, and more economical to operate.

Introduction of a new automatic drive on the cars of one make, in which a four-speed automatic geared transmission is combined with a "liquid flywheel," has stirred great interest. Featuring the innovations made to improve safety are two developments that have been adopted almost universally—"sealed-beam" headlights and a new safety glass that is easier to see through.

On the whole, the 1940 cars are longer, wider, and roomier than last year's. As a result, they are heavier. Three exceptions to this trend, however, involve weights less by 200, 85, and 21 lbs, respectively. The striking 200-lb reduction is the sum of numerous small reductions in individual parts, achieved after a thorough combing of the entire design.

The floors of many 1940 models have been lowered, some by as much as four inches. This trend is becoming increasingly difficult to continue without lowering the axle clearance. In many cases, lowering the bodies necessitated design changes in many other parts.

If current trends continue, there is little doubt that the running board is on the way out. A greater number of models were offered without them in 1939, and a growing proportion of customers chose to get along without them when ordering optional models. Windshield and window-glass areas are larger, but the increase is not as great as it was last year.

One method of improving ride that was used on a large number of cars in 1939 is to change the weight distribution of the car so that passengers are seated farther away from the axles. On one make the rear axle has been moved about  $7\frac{1}{2}$  inches farther

back and the engine about four inches ahead, relative to their former positions. The change, plus a general increase in wheelbase, enabled this maker to introduce a more accessible square-bottom design for the rear doors of all sedans.

## ENGINES

One completely new engine and the inauguration of dynamic balancing of assembled engines highlight the developments in this field. A continued upward trend of compression ratios, going hand in hand with improvements in fuels, is one of the methods used to boost output to handle the heavier, larger cars, and to increase performance. Increasing the bore or stroke or both, improvement in carburetion, camshafts, combustion-chamber design, and manifold design are other methods employed to increase horsepower.

The completely new engine is a 160-hp L-head straight 8. It is claimed to be the most powerful straight 8 engine in American passenger cars. Bore and stroke are  $3\frac{1}{2}$  x 4 $\frac{5}{8}$  inches; standard compression ratio is 6.45:1; hydraulic valve lifters are used. The engine develops 160 hp at 3500 rpm, and has a nine-bearing crankshaft.

Dynamic balancing of completely assembled engines, including clutch, flywheel, and accessories, is now employed for the first time in production by one maker. Using a special horizontal balancing machine, balance is now held within  $\frac{3}{8}$  oz-in., whereas 1 $\frac{1}{2}$  oz-in. was the best that could be achieved previously. Although dynamic balancing of individual parts and sub-assemblies by conventional methods is still followed, the balancing of the complete engine has been adopted in order to eliminate the possibility that the rotating or reciprocating parts of any one engine may be on the high or the low side

## AUTOMOTIVE ENGINEERING

of the limits tolerated, causing a "stacking-up" of limits and resulting in vibration.

### CYLINDERS AND VALVES

Shorter push rods, by  $2\frac{3}{8}$  inches, made possible by a new tappet that has the push-rod seat brazed to the top of its cast-iron shell, feature the changes in valve gear of one large-production low-priced car. The new two-part tappet replaces the type in which the push-rod seat is located at the bottom of the tappet as an integral part. Aluminum-alloy timing gears appear on one car. New high-lift camshafts contribute to the increased output of several engines. Cyanide-hardening of the camshaft sprocket has been adopted on one additional line. "Granodized" or iron-phosphate-coated tappets and chromium-nickel exhaust valves also are new on one more line.

### PISTONS AND RINGS

Aluminum-alloy pistons of several additional models are now tin-plated. Thickness of lands in the pistons of one line has been increased, making possible the use of a deeper top compression ring.

### CRANKSHAFTS AND VENTILATION

Counterweighted crankshafts are now virtually universal, with one 4-cylinder low-priced model adding four counterweights. The trend toward more main crankshaft bearings to reduce vibration continues, with one small 4-cylinder car increasing the number of main bearings from two to three. On one low-priced high-production car the diameter of the crankshaft main journals and crankpins has been increased, the lengths of the main journals have been increased, and the crankpins have been decreased in length. A copper ribbon filter unit has been placed in the ventilator outlet pipe of the cars of one medium-priced line, to trap any dust that otherwise might enter the engines of parked cars.

### LUBRICATION

Oil filters are appearing as standard equipment on more cars, two addi-

tional lines having adopted them in 1939. The two-stage type of oil filter is standard equipment on the new 160-hp. straight 8 engine announced this year. All oil supplied to the hydraulic valve lifters on this engine is filtered, and the unit acts as a bypass filter for the remainder of the engine. The capacity of the oil pump on one popular low-priced model has been increased 15 per cent by widening the gears, and the oil pressures at idling almost doubled.

### COOLING SYSTEMS

In almost all models the arrangement of baffles between the grilles and the radiator has been revised to direct maximum air flow to the radiator core corresponding to changes in the outline or position of grilles and core. One maker has raised the boiling point of the cooling solution by maintaining a pressure of seven pounds per square inch in its cooling systems.

### FUEL SYSTEMS

Carburetors have come in for a great deal of attention, being responsible, wholly or in part, for many horsepower boosts. Horizontal-type intake manifolds, larger fuel pumps, and insulated fuel lines also make their appearance. Shallower gasoline tanks have assisted in lowering bodies, and some have a greater capacity.

Throat diameters of carburetors have been increased. Fuel is metered to the jets by an auxiliary vacuum metering system on one system, and an internal vent has been installed in the carburetor to prevent vapor lock. Others have made one or more similar changes, or have switched to another type of carburetor.

One choke stove has been redesigned to permit a shorter warm-up period. Intake manifolds of two high-priced cars are now mounted parallel to the ground level, rather than to the inclined engine, to improve distribution so that fuel does not tend to run down to rear cylinders.

### EXHAUST SYSTEMS

One straight-through-type muffler has been increased in length; the in-



## XIX. ENGINEERING AND CONSTRUCTION

intermediate shell has been moved to the rear; and the inlet end has been increased in size. Another muffler is housed in an oval shell to save height. Mufflers of a medium-priced line of straight-through resonance type are now made of terne plate to make them rust-proof. Two other makers have added a tuning chamber to the inlet pipe as well as to the outlet pipe of their mufflers. Back pressure has been reduced slightly by adding a cross-over passage between the inlet and return muffler pipes.

### LIGHTING AND ELECTRICAL SYSTEMS

Almost universal adoption of the new sealed-beam lighting system overshadows developments in this field, and ties in with most of the changes made. Generator temperature regulation, glass-insulated windings, and a vacuum-controlled starter switch to preclude gear clashing also are reported.

The new sealed-beam headlight system is the result of three years' co-operative work by car manufacturers, bulb and lamp manufacturers, safety organizations, the Society of Automotive Engineers, and motor-vehicle administrators. The new system has two beams—a "traffic beam" for use wherever there is any traffic and a "country" beam for use only where there is no approaching traffic. The traffic beam is low enough to avoid glare and directs sharp, clear illumination to the sides of the road, especially to the right shoulder. In construction of this new sealed-beam headlamp, lens, reflector, and light source are all assembled permanently in a sealed unit. When the filament burns out, the unit is replaced with a new one.

The maximum intensity of the headlight beam in the new system is specified at 75,000 cp, as compared with a previous maximum of 50,000 cp. Generator capacities have been enlarged to 33-35 amp to provide the increased current needed to produce the larger quantity of light projected by the new units. Most of the new generators have both voltage and current regulation.

The new unit is made in two basic types, one with a glass reflector and the other with a metal reflector. The glass-reflector type employs a 40-w filament for the country beam, and a 30-w filament for the traffic beam, whereas the metal-reflector type has 45- and 35-w filaments respectively. These values compare with the 27- and 20-w filaments used previously for 32-cp bulbs on low-priced cars. The two types give the same light distribution on the road and are interchangeable.

Control of the new lighting system has been standardized so that either country or traffic beams can be obtained alternately by operation of a left-foot switch and that a red pilot light on the instrument board is illuminated whenever the country beam is in use. An important advantage of the new system is that the sealed construction permits these lights to maintain at least 90 per cent of their original efficiency until they burn out. One maker is silver-plating terminals exposed to weather.

### CLUTCHES

Three lines of cars have changed over to the lighter, semi-centrifugal clutch in order to facilitate clutch action. To eliminate the effect of engine movement upon clutch engagement, the linkage between the clutch pedal and housing has been modified on three cars. Pressed-steel clutch pedals replace drop-forged units on several makes. The clutch-pedal assisting spring now is furnished on additional makes. Facings are now fastened to the clutch disc by two rows of rivets instead of one on several cars.

### TRANSMISSION

Easily the subject of the greatest interest in the transmission field is the new automatic drive introduced by a medium-priced maker. Steering-column gearshifts are now standard equipment on all but a very few cars and are optional on most of the exceptions. A great deal of work has been done in making shifting easier and quieter and, in addition, modifying the transmission and shifting ar-

rangement so that floors could be lowered. New features have been added to overdrives. The fluid flywheel combined with overdrive is used on more models than in 1938.

The new automatic drive combines a four-speed automatic geared transmission with a "liquid flywheel." It consists primarily of two planetary gear sets which are constantly in mesh, in back of which is a reverse planetary set. The liquid flywheel acts to cushion the impact of the gear shifts, as well as to damp the torque reactions of the engine.

The liquid flywheel is placed in front of the automatic transmission, replacing the clutch. No clutch pedals are provided in cars equipped with the new drive, control being accomplished entirely by accelerator and brake. Oil is supplied to the liquid flywheel from the transmission under pressure. Power may be transmitted through the planetary gear sets so as to produce either of four forward ratios or reverse.

A centrifugal governor incorporated in the transmission selects the proper gear for each speed and throttle position. The change from one gear to another is accomplished through hydraulically operated pistons, in some cases assisted by springs, which control brake bands on the planetary gear sets and clutches within the planetary units. The speed at which the various shifts occur is governed by throttle position as well as by the centrifugal governor so that, as the throttle is opened, the gears shift at higher and higher speeds. Furthermore, the pressure on the brake band and clutches is varied in proportion to the throttle opening. The first feature permits maximum power and acceleration when needed, and the second reduces the seize of the brakes or clutch when relatively low torque is being transmitted.

A feature of the transmission is that there is a geared reduction between the crankshaft and the fluid flywheel when the car is started. The slower speed of the fluid driving member is claimed to reduce the tendency for the car to creep under idling conditions. In third and fourth speeds

the torque is divided so that only part of it goes through the liquid flywheel. This arrangement minimizes slip under normal driving conditions.

Control is provided by a lever and sector segment mounted on the steering column directly beneath the steering wheel which can be adjusted to any one of four positions: neutral, high, low, and reverse. In the "high" position, all four forward gears automatically change from one to the other and back again at the proper speed and throttle position. In the "low" position only low and second gears are available; this range is recommended for use only when going down steep hills or when pulling in heavy sand or mud.

Where extra power and acceleration are needed, as when passing a car on the road, with the engine in the fourth-speed range, pressing the accelerator all the way down beyond the full-throttle position, changes the gear from fourth to third. The gear is returned to fourth speed by partially releasing the accelerator.

Practically all makers have modified their steering-column-shift transmissions to make shifting easier and quieter, to save space, and to permit lower floors. In a number of 1940 cars the gear-selecting mechanism now enters the transmission from the side; the cable cross-shift connection has been replaced by a rod; the notches on the shifter rail have been relieved; and the shifter-rail poppet or locating-ball spring pressure has been reduced.

Two other makers have attacked the problem of providing easier shifting by raising the leverage, increasing the lengths of the shifting levers. Shifting has been facilitated on another line by new synchronizers, round rails, and by improved tooth pointing on first and reverse gears which also have been widened.

Vacuum shift, introduced by one low-priced maker in 1938, has been modified and is standard equipment on all its models. A major change in the transmission itself of this same low-priced line is the provision of

## XIX. ENGINEERING AND CONSTRUCTION

helical gears for first and reverse, making all gears of this type.

Overdrives are optional on three additional makes. An important change has been made in one overdrive. It employs the same gear arrangement, but the former combined centrifugal governor and clutch have been eliminated, and all changes from direct drive to overdrive and vice-versa are now made by movement of the pawl in and out of engagement with the slotted head on the sun gear.

A feature of the new overdrive is a red indicator light on the instrument panel which lights whenever the car has passed the cut-in speed, to tell the driver that he can go into overdrive if he so desires. The change was made for simplification, to permit it to be set to operate at about 20 mph to include most city driving and to permit it being locked out of action at any speed.

### PROPELLER SHAFTS

Longer, larger-diameter propeller shafts are in use, usually to take care of wheelbase and horsepower increases. Two makers have changed their constructions. One low-priced car uses a propeller shaft of solid construction. The sliding section is taken care of by the front flange which is free to move fore and aft on a splined portion at the rear of the transmission main shaft. When overdrive is used, the conventional propeller shaft is retained.

### REAR AXLES

Where rear-axle ratios have been revised, only one exception to a downward trend has been noted. The tread of the axle on two models has been increased 1½ inches, to permit a wider rear seat.

### BRAKES

Adoption of hydraulic brakes as standard equipment on one low-priced line in 1939 makes their use virtually universal. Size of brakes on two models has been increased 25 and 33.2 square inches. Steel brake drums with centrifugally cast-iron linings are new on one line, replacing cast-iron rings bolted to steel hub flanges. The

division of braking effect between front and rear brakes has been changed to suit the change in weight distribution of a number of cars. Pressed-steel brake and clutch pedals replace drop-forged units on two lines.

### WHEELS, RIMS, AND TIRES

Changes in tire sizes follow the weight trends in most cases. The tires of one high-priced model are made with rayon twist cords; another one carries safety-type tubes as standard equipment. Hub caps of many models are larger.

### REAR SUSPENSIONS AND TORQUE MEMBERS

Longer leaf springs with lower rates, adoption of tension-type or rubber shackles in several makes and larger-diameter coil springs on another make feature the spring developments. New stabilizers are announced on several lines and others have made modifications in these units. The leaves of rear springs on one low-priced line are of parabolic section to reduce weight. Two rubber inserts, three Silenite fabric inserts, and one lead insert now are used between the rear-spring leaves of one line to give the desired frictional control. Stabilizer action is achieved on one model by mounting the direct-acting rear shock absorbers so that the upper ends incline toward the center of the chassis.

### FRONT SUSPENSIONS AND STABILIZERS

Two new converts to independent front suspension, increased lengths of conventional suspensions, joint improvements, and a new stabilizer bar feature the front-suspension changes. A feature of one new independent front suspension is that direct-action telescopic shock absorbers are located within the coil springs. Front-spring leaves of one low-priced line are of parabolic section to save weight.

Two low-priced lines carry a new torsion-bar ride stabilizer of unique design to relieve the front transverse spring, which is 1.94 inches longer, of the necessity of providing lateral stability. The stabilizer is mounted transversely forward of the front axle



and is fastened to the sides of the frame by steel brackets containing rubber bushings. The ends of the bar are coupled directly to the axle through oilless bearings in which they slide.

## FRAMES

Longer wheelbases, lower floors, and wider bodies have necessitated redesign of many frames to provide the same ground clearance at the rear axle. As a result the frame cross-member of one line has been redesigned, and the angle of the kick-up has been made sharper. Two frame designs incorporate a redesigned front cross-member assembly to support new independent suspensions.

## STEERING GEARS AND CONTROL

With the goal of still easier steering, new types of gear and geometry have been adopted, anti-friction bearings added, and ratios raised. In one line turning radii have been reduced. A bevy of two- and three-spoke plastic wheels of new design are seen in 1940 cars. So-called "center-point" steering is announced for one line. In this arrangement the links connected to the knuckle arms are connected pivotally to a steering arm near the center of the chassis.

Steering gears of one low-priced line now are of the worm-and-roller type, replacing the worm-and-sector type, to reduce steering effort. A ball-bearing worm-and-nut steering gear is introduced on a high-priced car. One steering-column has been made adjustable in two positions 1½ inches apart, low and high. All plastic steering wheels have a spoke arrangement that provides clear vision through the upper part.

## EQUIPMENT

Evolution of the direction signal continues with four slightly different systems available instead of one. More and more signal lights flash on the windshields to warn the driver about more things. Shock absorbers have been revised, rearranged, and several new heating systems are announced. The most apparent change in direction signals is the addition of

a front flashing signal in the parking light.

A feature of one design is that the direction-signal lights are turned off automatically at the completion of a turn. The automatic turn-off is accomplished by a mechanism that breaks the circuit when the wheel returns to straight-ahead position. The front signals flash from the 21-cp filaments of the parking lights located directly on top of the fenders above the headlamps. The rear signals have been redesigned with a larger glass area and 32-cp flashing lights instead of 21 cp. A second system is similar, except that it has no automatic turn-off and the control and pilot light are arranged differently.

A modification of these two systems is offered as optional equipment on three lines. It does not have the automatic knock-down feature. Whereas the foregoing systems do not interfere with the stop-light circuits, this system uses the same filament for stop signal and flash signal so that, if the brakes are applied while signaling for a turn, one side will be flashing and the other will be a steady stop-light.

A fourth design consists of a die-cast housing mounted under the steering wheel containing a switch and three buttons, two marked "R" and "L" and a plain button between them which is used as a release or shut-off.

Four new safety signals on the instrument boards of one line flash a warning when the gasoline supply is low; the oil pressure drops; the cooling-water temperature is too high; and the ammeter discharge is excessive.

Hood locks now are standard equipment on three more lines. One design is controlled by a lever mounted alongside the steering column. Another hood lock incorporates a counter-balancing device to facilitate opening and closing the hood. When the hood is closed, it is locked automatically.

Rotary-type locks appear on the doors of two additional lines. The lock of one line's new ignition switch has two "off" positions, one is the



## XIX. ENGINEERING AND CONSTRUCTION

conventional "locked off," the other an "unlocked off." The key may be removed for either position, eliminating the necessity for leaving the key when leaving the car in a public garage or parking lot.

Three more lines have adopted a vacuum-operated telescopic overhead radio aerial. One maker introduces a new type of jack which consists of two units—a jack and a supporting stand. It does away with the necessity for crawling under the car to jack it up. In operation, the jack is applied to the outside of the wheel. After the car is raised to the proper height, the supporting stand is slipped under the axle behind the wheel so that the guide strikes the brake backing plate. The jack is then lowered until the car is supported by the stand.

One large maker announces an under-the-seat heater as optional equipment to give better heat control and greater capacity, especially in the lower parts of the interior. One or two units, with one under each front seat, can be furnished. As optional equipment on another line, a new twin-unit dash-mounted heating and ventilating system is offered.

### GRILLES AND SHEET METAL

New massive one-piece fenders, that also include an integrally drawn headlamp housing, the front shroud dropping below the bumper line, and the entire hood side, all drawn from a single blank, touch a new ceiling in the art of drawing metals. Generally speaking, front ends look more alike than ever before. Hoods are longer and lower; radiator grilles have wider and longer horizontal bars; and headlamps are faired into the fenders with parking lights either on top, below, or on either side. Considerably more flash and dress-up with added chrome and enamel give a touch reminiscent of the booming '20's. Die-cast zinc-alloy grilles are used more widely than ever before.

### BODIES

Bodies generally are wider, lower, and more rigid. Windshield and window glass areas are larger and employ

a new cold-resistant safety glass with filler of polyvinyl acetal resin, almost universally. Running boards continue to disappear. Use of foamed-rubber cushions has spread to many more models. Many new plastic parts decorate the bodies inside and out.

The trend toward greater structural strength and rigidity in conventional-type bodies, along with greater roominess and modern lines, is well exemplified by a new body appearing on six models. The new structures extend the application of "double-walled" or box-section construction. These bodies are furnished without running boards and are lower and wider at the front seat than any others in all lines in which they are used, with a width at the front seat of 60 inches in the four-door sedan.

Other features of 1940 bodies include sharper-angled windshields, concealed hinges, ventilators in the rear door, large-area curved tempered plate glass in rear windows, elimination of rear-quarter windows, front doors hinged at the front body pillars, and rear doors hinged at the center pillars.

One low-priced maker has gained leg room in the rear and saved weight through the use of front-seat frames of tubular construction with more compact springs. By decreasing the thickness and changing the contour of the front seat backs, four inches of additional room has been gained in the rear compartment of sedans of another low-priced maker. Front seats of two lines have a new seat adjuster with the release on the side.

One maker introduces a type of soundproofing, in which grains of sand are suspended in a compound to deflect sound waves, to insulate the lower part of its bodies. Vacuum-operated tops are provided as standard equipment on increased number of convertible models. In several bodies the door handles are in line with the belt molding which is recessed under them. The effect is that the handles blend into the molding and are not perceptible at a distance. A feature of the interiors of two lines is the choice of instrument board and plastic color to match interior trim.

NAVAL ARCHITECTURE AND MARINE ENGINEERING

BY JAMES L. BATES

DIRECTOR, TECHNICAL DIVISION, U. S. MARITIME COMMISSION

**GENERAL**

During 1939 the designing and placing of contracts for new ships, naval and merchant, proceeded at an accelerated pace. The year closed with more tonnage under construction and more men employed directly or indirectly in the shipbuilding and ship repair industry than has been the case at any time in the nation's history with the exception of the World War. The development extended to oil tankers, cargo carriers, cargo passenger vessels, and vessels intended primarily for passengers.

This progress is largely the result of implementing national maritime policy through the Maritime Commission. The Commission's building program has been generally restricted to ships built for government account, to ships built by the Commission for charter by private owners, and to ships built with the assistance of the Government for private owners. There has been some reluctance on the part of moneyed interests to invest in the construction of ships.

However, the operation of the Maritime Commission has served in a large measure to stabilize the shipbuilding industry. This has resulted in the building of enlarged technical staffs by the shipbuilding companies and private naval architects, and the securing of enlarged and improved accommodations for them. The adoption by the Commission of a long range program for merchant ship construction has served to revive the confidence of this industry which had been impossible prior to the past two years under the haphazard methods then obtaining.

**SHIPYARD PRACTICE**

There is a decided tendency among smaller yards, particularly those which have new organizations, to make of the shipyard primarily an assembling and erecting organization. The older

and larger yards organized and equipped for general manufacture continue to manufacture the parts as well as to assemble them. However, it may be said that there is a trend toward the practice of assembling units manufactured by sub-contractors on the part of shipyards as a whole.

Improvement in the methods of welding and in the fabrication of hull structure, involving the welding of large sections of material prior to their placing in the hull, continues.

Progress in the control of work flow by means of a central planning group continues. This naturally tends toward larger planning and statistical organizations with the corresponding reduction of responsibility and perhaps initiative in the outside yard.

Due primarily to the many uncertainties surrounding the industry itself, and labor more particularly, contracts are drawn at a fixed price subject to adjustment in accordance with variation in the cost of labor and materials. This form of agreement has practically replaced the old fixed price contract.

**SAFETY FEATURES**

The Government is encouraging the building of the most modern and best equipped ships in the world today. Their minimum compartmentation is one, that is, they will not immediately sink or capsize with one compartment open to the sea. The materials used are all practically fire-proof. In the development of details of construction and machinery the provisions included in Senate Report No. 184 have been followed. The ships are all classed with the American Bureau of Shipping in so far as structural strength and the adequacy of machinery installation are concerned. They are inspected by the Bureau of Marine Inspection and Navigation for the most efficient and necessary navigating, life saving and

## XIX. ENGINEERING AND CONSTRUCTION

fire fighting equipment, and also by the United States Public Health Service for the most modern sanitary arrangements. All cargo handling equipment is tested for conformity with the United States and foreign requirements and certificates are provided to vouch for the same.

Every effort is made to incorporate all possible safety features in United States vessels, and all plans and specifications submitted to the Maritime Commission are examined with the end in view of incorporating such features.

Finally, in the design and specification of details which do not affect the safety or integrity of the ship as a whole, but which have a vital bearing upon the convenience and the safety of life and limb both of passenger and crew, care is exercised to approach as nearly as practicable to the ideal.

### CARGO PRESERVATION

One of the principal causes of damage to cargo lies in the air of sea level atmosphere. The ability of this air to absorb, transmit, and change chemical reagents and moisture conditions, to create direct and, under favorable conditions, very rapid chemical reactions, to absorb and transmit objectionable odors and contaminations, and to carry spores of destructive fungus growths, has been very little understood or studied.

Much damage to cargo is caused by the activity of moisture in the air. Changes in temperature can cause this moisture to be precipitated on to the cargo. Moisture which is on the surface of the cargo or vessel may be transferred by air currents upon change of temperature.

Mechanical means of ventilation is desirable as it can be controlled more readily than natural ventilation. In this field the conservator of marine cargoes finds an abundance of carefully designed and very efficient mechanical devices for the movement of large quantities of air and for the conditioning of that air in the factors of temperature and humidity. The conditioned air can be distributed under control in all cargo spaces

through a system of permanent ducts built into the ship, supplemented in the case of special bulk cargoes by temporary ducts laid in the cargoes.

### RESEARCH

The lines along which naval architectural and marine engineering research proceeded during the year include the following:

Experiments in the model basin in the Newport News Testing Tank and in the United States Experimental Model Basin in Washington to discover the least resistful form possible for the United States liner *America*. More than 50 models were used in making this investigation, and the hull form finally selected is some 10 per cent less in resistance than the model originally tested for this purpose.

Experiments have been carried out at the United States Experimental Model Basin, Washington, D.C. to increase knowledge relative to the action of the bulbous fore foot and the conditions around the stern when propellers are in operation. These experiments took the form of point pressure measurements over the surface of a model. Two principal results were obtained—the frictional resistance of a ship model may depart materially from that computed by the standard method, and the augment of resistance due to propeller operation is only in part a pressure phenomenon.

A series of tests have been made using models in the study of the rolling of ships. These experiments indicate, principally, that the use of published data on resistance to rolling is dangerous without the possession of full information regarding the ship; also that there is need for methodical tests on the damping due to hull form as well as the effect of rigging and upper works upon the damping.

A study of the plans and defects of rivets and riveting in naval construction was made and a series of experiments performed using high tensile steel rivets. The results of these experiments indicated the following to be desirable: use of fillets under the rivet heads; removal of the zinc coat-



ing at faying surfaces; importance of proper temperatures during rivet driving; control of the depth of counter sinking; and importance of adhering to the accepted rules of good riveting practice and the necessity for tight bolting of structures prior to riveting.

An investigation was made of the possibilities of non-destructive examinations of steel. Theoretical investigations, based upon the study of both theory and actual results, have also been made relative to the action of ship plating under combined compression and hydrostatic pressure.

Some of the problems incidental to the use of high pressure and high temperatures for modern propulsive machinery plants have been studied.

Investigations have been made into corrosion fatigue and caustic embrittlement. These phenomena are, respectively, the acceleration of fatigue and the failure of steel or other metals produced by the presence of water or corroding media when such materials are subject to cyclic stress.

Caustic embrittlement is the development of cracks (inter-crystalline) due to water of high caustic content or to relative rates of sulphate to caustic or carbonate concentration.

The results of these investigations indicate the necessity of selecting the proper material and of protecting it so far as possible from the presence of water; the rendering of the water which must be present as non-corrosive as may be; the minimizing of stress concentration; and the use of more generous safety factors.

## MATERIALS

Among the new or improved materials receiving attention in this field have been the following:

Nickel clad steel used for fish storage tanks on seagoing trawlers to reduce spoilage of fresh fish. Nickel linings are also used for cargo tanks to improve carriage of caustic soda and other highly corrosive chemicals. Nickel alloy steel used for anchor chains, propeller shafts, and rotor forgings in marine steam turbines to reduce weight, size, and increase re-

sistance to abrasion. Cupro nickel used for lines handling sea water for flushing, fire, and sanitary purposes to reduce corrosion and fouling.

Monel metal used for propeller shafts of tuna fishing boats, pump impellers, storage tanks of boiler feed water, table tops, and galley gear material to reduce corrosion, and provide better sanitary conditions.

Aluminum alloy, of which a complete hull section has been built, to further study its possibilities to determine whether the use of this material for hull construction is warranted.

Asbestos composition panels, as a result of new production facilities, used for bulkheads, outboard sheathing and lining, insulating ceilings, and fire screen bulkhead protection so as to reduce and confine fire hazards.

Insulated sheet metal sectional panel for "B" type bulkheads to meet requirements of Senate Report No. 184, which, because of its built-up panel system, offer acoustical properties, electrical outlets, and other advantages that can not be obtained from solid bulkhead panels.

Porcelain enamel used as a facing on metal bulkheads, composition class "B" bulkheads, and formed bathroom fixtures offer great advantages of decreased weight and lower costs.

Mineral wool in blanket and block form used for insulation for refrigerated spaces, living quarters, fire screen bulkheads and deck houses to increase fire protection.

Glass products developed for wall coverings, insulation for boilers, evaporators, steam piping, refrigerating machinery, and electrical appliances so as to utilize their waterproof and fireproof characteristics.

Plastic cork rubber, improved, used for floor coverings to determine its plastic non-slip water resistant qualities. Rubber, of which some relatively new applications have been made, used for shafting exposed to sea water, protective lining for salt water piping, has a low coefficient of friction when submerged and not subjected to abrasive action and its ability to resist corrosion.



## XIX. ENGINEERING AND CONSTRUCTION

New lubricating oil for Diesel engines that improves piston cleanliness; better protects bearing surfaces, piston rings and cylinders during the critical breaking-in period; highly resistant to anti-oxidant and deterioration; and stable in the presence of moisture and in storage.

Low alloy high strength steel for hull construction where abrasion, impact, and non-corrosive properties are desired.

Textiles, chemically treated, used for hatch covers, and interior decorations to increase resistance to fire and water and prolong their lives.

Latex used for deck coverings because of its light weight, resilience, non-slip and adhesive properties with view of augmenting the use of the conventional magnesite and emulsified asphalt types.

Alkyd paint, of synthetic resin type, a new development, used because of its rapid drying, excellent color and gloss retention after long exposure.

Marine paints, topside and ships' bottom of various formulae, are under investigation for improvement of existing specifications and the introduction of new superior types.

### STYLING AND DECORATION

There is a distinct tendency to emphasize the importance of styling both interior and exterior in American ships to an extent not heretofore reached. This is partly due to a keener realization of the fact that the traveling public is desirous of carrying on to the sea the convenience and even luxuries which it is able to find on land. It is also due to a growing realization of the fact that methods of ship construction and means of propulsion have already undergone changes, the extent of which has not been heretofore fully appreciated. In certain outstanding ships of the year both camber and sheer have been eliminated. This has materially simplified the fitting of joiner work and the installation of furniture. It has also led to the recognition of structural elements, such as girders and supporting pillars, as worthy elements of the general scheme of interior decoration. Be-

cause these members are characterized by the straight rather than the curved line, they lend themselves easily to modern styles in interior decoration. This in turn appears to harmonize fortunately with the diversions and usages of present-day life.

Recent developments in propulsive machinery have provided installations of relatively large power on small weight and in small space. This has made possible the reduction in numbers of stacks as fitted in the older large passenger vessels so that today two or even one stack may serve the purpose for which it was necessary to provide three or four stacks in the ships of yesterday. Where possible to use internal combustion machinery rather than steam the stack reduction can be carried to an even greater extent.

On vessels intended primarily for cargo carrying, the tendency seems to be to discard the mast with its rake for the vertical kingpost.

The entire or partial elimination of sheer is also characteristic of modern design. A combination of the three changes just noted *viz.*, the reduction in the number of stacks, the adoption of the kingpost, and the decrease in the sheer have basically changed the exterior appearance of ships from that considered to be attractive in previous years. The problem of stack design is being attacked with renewed vigor in the attempt to secure clean decks without sacrificing the feeling of power and style secured by the short broad stacks of the *Bremen* and her successors.

### PROPULSION

Among the events of the year under this heading is the low fuel consumption shown by the steam turbine drive for certain of the Maritime Commission's C-2 type of ships. Direct drive Diesels capable of burning a low grade of fuel have shown to advantage. Suitable fuel for the motor ship is a problem. In order to compete with the steam engine the Diesel should be capable of burning low grade fuel, preferably of a type similar to that used in marine steam plants.

Multiple Diesel units in conjunction with gears and couplings (either hydraulic or electro-magnetic) have proven attractive to the designer because of their increased flexibility and reduced weight. Increased interest in the Diesel engine as a prime mover has resulted from the above considerations which have been secured by the adoption of higher speeds at no sacrifice in thermal efficiency.

The Maritime Commission has authorized the construction of one C-3 type ship with a propulsive plant of 8500 shaft horsepower; with a steam pressure of 1200# gauge and 950° total temperature. This authorization is for the purpose of developing suitable materials and obtaining a working installation of this type so as to ascertain its suitability for marine service.

The Maritime Commission has also conducted a study of a high pressure steam propulsion unit utilizing the regenerative heat cycle. Such a plant is to be installed in one of the new American Export Line cargo ships under construction at the Bethlehem Steel Company's plant at Quincy, Mass. This principle in marine engineering makes for fuel economy and decreased machinery weight.

Large evaporating plants for the production of fresh water are to be introduced in order to obviate the necessity of increasing hull size for the accommodation of excessive amounts of fresh water for large vessels intended for operation on long voyages.

Continued effort has been made to avoid fouling of decks by soot from uptake gases through the use of dust collectors and soot blowers.

Cargo refrigeration by direct expansion units and refrigerated boxes has replaced the old type of brine refrigeration.

Motor controllers have been located on a central control board rather than at the individual machine.

Automatic combustion control has undergone further experiment and will doubtless become an accepted part of a steam machinery installation.

## CARGO HANDLING

Special types of hatch covers simplify and expedite the operations of opening and closing of hatches and thus save much valuable time in port, when time is most precious. Two men with special jacks can remove the covers, stow them away and replace them on the hatches in but a fraction of the time necessary with the old methods involving ship's winches. Moreover, this system insures safety. It obviates all possibility of eventual damage to the covers, almost inevitable when ship's winches are used.

By the use of fleets of tractors it has been possible to rush the loading and unloading of ships in certain ports and this holds high dockage charges down to a minimum. Each of the tractors used pulls from six to eight trailers at a time. Each trailer is rubber-tired and equipped with roller bearings and can load 25 bags of sugar weighing 101 pounds per bag.

A modern scheme using conveyors and trucks is comprised of four major features, *viz.*, cargo transfer from deck space to dock by a series of portable belt conveyors; one operating on deck, feeding a second on the gang plank which is to discharge to a third on the dock, the third unit equipped with sideboards and serving as a sorting table.

Trailers at the sorting table, when fully loaded with freight destined for one car or one location in the warehouse, are moved in trains by gas-powered tractors to the proper destinations. Freight destined for either temporary or permanent storage is loaded on pallets placed on trailers, hauled to destination by tractors, removed from trailers and tiered by special trucks, thus releasing trailers immediately for further service.

Cargo is loaded on trailers in freight cars and towed directly to ship or to warehouse for short term storage. Both hatches and side ports are successfully used in connection with cargo handling depending upon the cargo and the commodity handled.

## XIX. ENGINEERING AND CONSTRUCTION

### PROMINENT SHIPS OF THE YEAR

**SS. Panama.**—Three vessels of this type have been brought out. In a sense they may be termed the first ships of the new American Merchant Marine. They are characterised by an absence of sheer and marked simplicity and ruggedness in structural design. The precautions against fire are more extensive than anything before attempted in this country in ship construction. The veranda arrangement of staterooms has been incorporated and all bathrooms so far as practicable are lined up vertically to simplify piping. Built-in conveyors for handling cargo have been installed. The interior decoration of this ship corresponds in progressiveness to that of her structural design, having a distinctly modernistic character.

**High Speed Tankers.**—It had been accepted as axiomatic that the most efficient speed for a large tanker is about 13 knots. In order to provide a group of fast tankers suited to fleet use in times of emergency a new design was prepared, contemplating a sustained sea speed of 16½ knots, the vessel being in loaded condition. Ships built to this conception went into service during the year. They are up-to-date in every respect, providing, among other things, the highest degree of comfort for the personnel. Many of them have been operated in the mercantile service at their higher speeds and have shown themselves to be seaworthy and efficient.

**SS. Challenge.**—This is the first steam-driven ship of the program to be built to Maritime Commission design. It is believed that she established a world record for fuel economy. Deck machinery and galley equipment are all electrical. Both mechanical and natural ventilation is provided for the cargo holds. Fire-resistant bulkheads are provided, and the ship is built to a one-compartment standard. She is driven by double reduction geared turbines equipped for steam at 445# gauge and 740° total temperature. A high standard of comfort and convenience is provided for operating personnel.

The ship is of smart and pleasing appearance.

**MS. Komoku.**—The sole object in the design and construction of this vessel was the economic transport of sugar in packages from the refinery at Crockett to various ports of San Francisco and its inland waterways systems. The hull is of mild steel *entirely welded*, and is built to comply with all rules of the American Bureau of Shipping of the class. There is not a single rivet in the structural work of this hull. The elevator, which is the mainspring of the cargo handling system, has a platform 12' wide x 30' long and is powered by compressed air. Crew accommodations have not more than two men for each room.

**SS. America.**—While not entering into service during the year 1939, this vessel was satisfactorily launched, and because of her size, speed and intended route rightfully has a position among the maritime projects of note. It is expected that she will enter into service during 1940 and will add materially to the prestige of the American Merchant Marine on the North Atlantic.

### RECONDITIONING AND SCRAPPING

The former International Mercantile Marine Liners, *Virginia*, *Pennsylvania* and *California*, were reconditioned as the *Brazil*, *Argentina* and *Uruguay* for the South American service. Re-arrangement of these vessels involved the installation of a deck swimming pool with adjacent dressing rooms; alteration of existing accommodations to provide larger staterooms and bath facilities for fewer passengers; modernization of heating, lighting, plumbing, and ventilation systems with necessary additions; re-arrangement and improvement of crew quarters, and installation of an air-conditioning system in the tourist dining room. The first-class dining room was already equipped with air conditioning. All passenger quarters are specially adapted to tropical weather conditions.

The former Munson liners, *Pan America*, *Western World*, *American Legion*, and *Southern Cross*, have



## PERIODICAL PUBLICATIONS

been transferred to the Army and Navy. The *Pan America* and *Western World* have been converted to the U. S. Army transports *Hunter Liggett* and *Leonard Wood*, while the latter two are to be converted for use as auxiliaries.

The *American Seaman*, formerly the *Edgemoor*, was reconditioned for the exclusive purpose of training officers and seamen for the merchant marine. Accommodations were provided for 255 men. The entire ship was made virtually fireproof.

The *William L. Thompson*, formerly *Pacific Spruce*, was reconditioned to carry fishermen and cannery workers to Alaska. She was made as fireproof as possible, being given fireproof joiner bulkheads, steel hatch covers filled with asbestos, steel furniture, and a smoke detection system. The cold storage room was given a coating of fireproof insulation over the cork surfaces.

Five of the most famous Puget Sound passenger steamers were sold "down the river" for scrap, terminating one of the most stirring chapters in Pacific Coast inland navigation. Diesel ferry lines have replaced the once huge fleet of Sound coasting steamers. Only the historic and lucky *Chippewa*, three times rebuilt and now a fast 220 H.P. single screw

Diesel ferry, plying between Seattle and Bremerton, remains of this once huge steamer fleet.

### TRENDS

Progress during the year seems to indicate that the development of the immediate future will be along the lines of increased speed, increased boiler pressure, lighter machinery of higher speed, less space devoted to the needs of machinery, a recognition of the importance of utilizing low grade fuel for the internal combustion engine, more complete electricalization of auxiliary plant and machinery, reduction in fuel consumption, improved safety against collision, due to better subdivision, a further reduction in fire hazard, the more general adoption of air conditioning, improvement in working and living conditions for ships' personnel, an increased use of welding in hull construction, a more complete resort to pre-fabrication with welding prior to erection, a willingness of the shipbuilding industry to accept new ideas and new materials with greater ease and rapidity, increased use of evaporating plants in lieu of large tankage for the carriage of fresh water, and the acceptance of more modern standards in the interior decoration and styling of ships.

## PERIODICAL PUBLICATIONS

### *Civil Engineering*

29 West 39th Street, New York City.

### *Construction Digest*

130 Seventh Street, Pittsburgh, Pa.  
*Construction Methods and Equipment*

330 West 42nd Street, New York City.

*Contractors and Engineers Monthly*  
470 Fourth Ave., New York City

### *Diesel Power*

192 Lexington Ave., New York City.

### *Electrical Communication*

67 Broad Street, New York City.

### *Electrical Engineering*

29 West 39th Street, New York City.

### *Electrical World*

330 West 42nd Street, New York City.

### *Electronics*

330 West 42nd Street, New York City.

### *Engineering and Mining Journal*

330 West 42nd Street, New York City.

### *Engineering News-Record*

330 West 42nd Street, New York City

### *General Electric Review*

General Electric Company, Schenectady, N.Y.

### *Journal of Engineering Education*

University of Pittsburgh, Pittsburgh, Pa.



## XIX. ENGINEERING AND CONSTRUCTION

### *Mechanical Engineering*

29 West 39th Street, New York City.

### *Motor*

572 Madison Ave., New York City.

### *National Engineer*

5447 Wayne Ave., Chicago.

### *Popular Mechanics Magazine*

200 East Ontario Street, Chicago.

### *Popular Science Monthly*

353 Fourth Ave., New York City.

### *Power Plant Engineering*

53 West Jackson Boulevard, Chicago.

### *Professional Engineer*

8 South Michigan Ave., Chicago.

### *Radio and Electric Appliance Journal*

1270 Sixth Ave., New York City.

### *Radio Engineering*

19 East 47th Street, New York City.

### *Radio Guide*

551 Fifth Ave., New York City.

### *Radio Industries*

35 East Wacker Drive, Chicago.

### *Radio Journal*

1270 Sixth Ave., New York City.

### *Radio World*

145 West 45th Street, New York City.

### *Railway Mechanical Engineer*

30 Church Street, New York City.

### *S.A.E. (journal of the Society of Automotive Engineers)*

29 West 39th Street, New York City.

### *Sibley Journal of Engineering*

Cornell University, Ithaca, N.Y.

### *Tech Engineering News*

Massachusetts Institute of Technology, Cambridge, Mass.

### *Technology Review*

Massachusetts Institute of Technology, Cambridge, Mass.

### *Universal Engineer*

150 Nassau Street, New York City.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

ALLIED BUILDING METAL INDUSTRIES, 542 W. 27th St., New York City.

AMERICAN ASSOCIATION OF ENGINEERS, 8 S. Michigan Ave., Chicago, Ill.

AMERICAN CERAMIC SOCIETY, 2525 N. High St., Columbus, Ohio.

AMERICAN CONCRETE INSTITUTE, 7400 Second Blvd., Detroit, Mich.

AMERICAN CONSTRUCTION COUNCIL, 28 W. 44th St., New York City.

AMERICAN ENGINEERING COUNCIL, 744 Jackson Pl., Washington, D.C.

AMERICAN FOUNDRYMEN'S ASSN., 222 W. Adams St., Chicago, Ill.

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS, Bellevue Court Bldg., Philadelphia, Pa.

AMERICAN INSTITUTE OF CONSULTING ENGINEERS, 33 W. 39th St., New York City.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, 29 W. 39th St., New York City.

AMERICAN IRON AND STEEL INSTITUTE, 350 Fifth Ave., New York City.

AMERICAN PETROLEUM INSTITUTE, 50 W. 50th St., New York City.

AMERICAN RADIO RELAY LEAGUE, 38 La Salle Road, West Hartford, Conn.

AMERICAN RAILWAY ENGINEERING ASSN., 59 E. Van Buren St., Chicago, Ill.

AMERICAN ROAD BUILDERS ASSN., National Press Bldg., Washington, D.C.

AMERICAN SOCIETY OF CIVIL ENGINEERS, 33 W. 39th St., New York City.

AMERICAN SOCIETY OF HEATING AND VENTILATING ENGINEERS, 51 Madison Ave., New York City.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS, 29 W. 39th St., New York City.

AMERICAN SOCIETY OF METALS, 7016 Euclid Ave., Cleveland, Ohio.

AMERICAN SOCIETY OF MUNICIPAL ENGINEERS, 4359 Lindell Bldg., St. Louis, Mo.

AMERICAN SOCIETY OF NAVAL ENGINEERS, Navy Department, Washington, D.C.

AMERICAN SOCIETY OF REFRIGERATING ENGINEERS, 37 W. 39th St., New York City.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

- |   |   |
|---|---|
| <p>AMERICAN SOCIETY OF SAFETY ENGINEERS, 25 W. 39th St., New York City.</p> <p>AMERICAN SOCIETY FOR STEEL TREATING, 7015 Euclid Ave., Cleveland, O.</p> <p>AMERICAN SOCIETY FOR TESTING MATERIALS, 260 S. Broad St., Philadelphia, Pa.</p> <p>AMERICAN STANDARDS ASSN., 29 W. 39th St., New York City.</p> <p>AMERICAN STATISTICAL ASSN., 722 Woodward Bldg., Washington, D.C.</p> <p>AMERICAN WATER WORKS ASSN., 22 E. 40th St., New York City.</p> <p>HIGHWAY RESEARCH BOARD OF THE NATIONAL RESEARCH COUNCIL, 2101 Constitution Ave., N. W., Washington, D.C.</p> <p>ILLUMINATING ENGINEERING SOCIETY, 29 W. 39th St., New York City.</p> <p>INSTITUTE OF RADIO ENGINEERS, INC., 330 W. 42nd St., New York City.</p> <p>NATIONAL AERONAUTIC ASSN., 1909 Massachusetts Ave., N.W., Washington, D.C.</p> <p>NATIONAL BOARD OF FIRE UNDERWRITERS, 85 John St., New York City.</p> | <p>NATIONAL FIRE PROTECTION ASSN., 60 Battery March St., Boston, Mass.</p> <p>NATIONAL RESEARCH COUNCIL, 2101 Constitution Ave., N.W., Washington, D. C.</p> <p>NATIONAL SLATE ASSN., 644 Drexel Bldg., Philadelphia, Pa.</p> <p>NEW YORK ELECTRICAL SOCIETY, 29 W. 39th St., New York City.</p> <p>RADIO CLUB OF AMERICA, 11 W. 42nd St., New York City.</p> <p>RADIO MANUFACTURERS ASSOCIATION, 1317 F St., N.W., Washington, D.C.</p> <p>SOCIETY OF AUTOMOTIVE ENGINEERS, INC., 29 W. 39th St., New York City.</p> <p>SOCIETY OF NAVAL ARCHITECTS AND MARINE ENGINEERS, 29 W. 39th St., New York City.</p> <p>SOCIETY FOR PROMOTION OF ENGINEERING EDUCATION, Univ. of Pittsburgh, Pittsburgh, Pa.</p> <p>THE ENGINEERING FOUNDATION, 29 W. 39th St., New York City.</p> <p>THE SOCIETY OF MOTION PICTURE ENGINEERS, Hotel Pennsylvania, New York City.</p> <p>WESTERN SOCIETY OF ENGINEERS, 205 Wacker Drive, Chicago, Ill.</p> |
|---|---|

## DIVISION XX

### GEOPHYSICAL SCIENCES

#### EARTHQUAKES AND VOLCANOES

By N. H. HECK

UNITED STATES COAST AND GEODETIC SURVEY

---

##### **EARTHQUAKES IN THE UNITED STATES, ALASKA, AND HAWAII**

There were no outstanding earthquakes in the United States during the period ended Nov. 30, 1939. The strongest in the Pacific Coast area centered on the Olympia Peninsula on Nov. 13, 1939, causing some damage in the region of Puget Sound and to the south. There were sharp shocks near Boulder Dam on May 4, in northeastern Alabama on May 5, and on the island of Hawaii on May 15. In addition there was occasional minor activity in the recently active areas near Fairbanks, Alaska, western Ohio, western New York, and New Jersey. On Nov. 14, 1939, a sharp shock centering in New Jersey across the Delaware River from Wilmington, Del., caused temporary excitement in the Philadelphia and Wilmington regions. On October 18, 1939, a shock originating in the seismic area at the confluence of the St. Lawrence and Saguenay Rivers in the province of Quebec was felt over a large part of New England. A strong submarine shock on Nov. 10, 1938, west of Kodiak Island, Alaska, caused some nearby damage and generated a tidal wave that reached the Hawaiian Islands. There was the customary activity of volcanic origin in the Hawaiian Islands.

##### **EARTHQUAKES IN FOREIGN AREAS**

The year had one major earthquake but otherwise only normal ac-

tivity. During the 12 months there were about 37 shocks strong enough to be widely recorded on seismographs. These were largely confined to the principal earthquake belts except one—on June 18 at Accra, Gold Coast, Africa, which was quite destructive. The major earthquake was that of central Chile on Jan. 24, 1939. A series of earthquakes resulted in the complete wrecking of the city of Chillan with 10,000 persons killed and damage to perhaps 40 per cent of the buildings in Concepcion. There was corresponding destruction elsewhere. Other earthquakes caused widespread damage as follows: Honshu, Japan, Nov. 5, 1938; Kyushu Island, Japan, March 20, 1939; Akita, Japan, May 1, 1939; on May 20 there was sinking of part of Verde Island in the Philippine Islands following earthquake activity; the village of Pomocanchi, Peru, June 23, 1939; Izmir (Smyrna), Turkey, Sept. 22, 1939. Of interest in connection with North American shocks was that of April 20 which caused some damage at Kingstown, St. Vincent Island, in the West Indies.

##### **SEISMOLOGICAL STATIONS**

For the accurate location of earthquakes there are in the United States 50 active seismograph stations and a number of others now inactive which may return to activity, and there are others in contemplation. These stations are operated by the Federal Government, by educational and scientific institutions, and by indi-

## EARTHQUAKES AND VOLCANOES

viduals. A new station has been established at Lincoln, Neb., and equipment for one at Logan, Utah, was ordered. Installations at the University of Chicago and at Salt Lake City were improved. In addition, there are two stations in Alaska, one in Hawaii (in addition to a number for recording earthquakes of volcanic origin), one in Puerto Rico, and one in the Panama Canal Zone. There are two in South America operated by scientific organizations of the United States—Huancayo, Peru (Carnegie Institution of Washington), and Montezuma, Chile (Smithsonian Institution). Through American participation in an international project a station was established in Bermuda. The Franklin Institute of Philadelphia loaned a non-tilt seismograph to the U. S. Antarctic Expedition for an extended period of observation in Antarctica.

Through the cooperation of many of these and of certain foreign stations in sending immediate telegraphic reports to Washington, the Coast and Geodetic Survey, the Jesuit Seismological Association, and Science Service are enabled to locate and announce almost immediately the location of earthquakes in the Atlantic and Pacific Oceans and the Americas. A similar European service takes care of the rest of the earth, but this was disrupted during the latter part of the year because of the international situation. The American service located an average of about three earthquakes per month during the year.

### EARTHQUAKE LOCATIONS AND OBSERVATIONS

The purpose of seismological stations is to locate earthquakes accurately, both in position and depth, and to determine their relation to geological formations. Very deep earthquakes (several hundred miles) are now readily located. In addition to the stations mentioned, all of which have continuously operating instruments, there are now in operation strong-motion seismographs, which operate only when set in motion by destructive or near-destructive ground

movements, and which have been installed by or in cooperation with the Coast and Geodetic Survey. There are 51 of these in California, four each in Nevada and Montana, one in the Panama Canal Zone, while a new station was established at Logan, Utah. The information obtained is both of engineering and seismological significance. Records were obtained from nine earthquakes during the year in California and Nevada. The best records were secured from shocks in the vicinity of El Centro, Calif. and Boulder Dam, Nev.

In order to have a complete account of every earthquake, instrumental determinations must be supplemented by reports of observers. In parts of the United States where earthquakes are infrequent, questionnaires are furnished to selected observers immediately after an earthquake. The observers of the Weather Bureau report on earthquake activity. In New England an organized group centering in Weston College, Weston, Mass. cooperates with the government in securing reports. In the Mississippi Valley region the Jesuit Seismological Association at St. Louis secures the information. In the Western Mountain and Pacific Coast regions there is a joint arrangement between the Coast and Geodetic Survey and designated state representatives, with cooperation from many public service agencies. In Alaska, there is cooperation with the University of Alaska at College, near Fairbanks.

Though earthquake studies are carried on in many parts of the country, there are five principal centers where records are analyzed or applications made of the material furnished. These are Berkeley, Calif. (University of California); Pasadena, Calif. (Seismological Laboratory of the California Institute of Technology); St. Louis University (Jesuit Seismological Association); New England (now centering at Weston College, Weston, Mass.); and Washington, D.C. (United States Coast and Geodetic Survey). Engineering studies are being made at California Institute of Technology, Stanford University, Massachusetts



Institute of Technology, and several agencies of the Federal Government. Various agencies are working on building codes, designed to require greater structural resistance to earthquake damage.

#### RELATED MEASUREMENTS

Earthquakes are related to crustal movements whether they are sudden movements at the time of an earthquake or slow movements at other times. These movements are determined by means of geodetic triangulation and leveling by the United States Coast and Geodetic Survey, and work for this purpose was done during the year. Determination of tilting of the crust, which is a form of crustal movement, has been made at Buffalo, N.Y., and at Berkeley, Calif. The recording by delicate microphones of sounds arising within the crust which may relate to crustal changes in the vicinity of active faults, leading to earthquakes, has continued along the Hayward Fault near Oakland, Calif., with still inconclusive results because of the lack of strong earthquakes. Other measurements associated with earthquakes in relation to engineering are determinations of periods of buildings and of the ground. Work of this character was continued in 1939.

Interested organizations in the United States which deal with the subject from a national viewpoint include the Seismological Society of America and its Eastern Section, and the Section of Seismology of the American Geophysical Union. The latter is also the American branch of the Seismological Association of the International Union of Geodesy and Geophysics. The latter organization has a commission which deals with tidal or seismic sea waves and with storm waves, and there is an American committee for the collection of such information. A meeting of the International Union and the branches named was held at Washington, D.C., during September, 1939.

Several publications of general interest include: "Earthquake History

of the United States, Parts I and II," and "United States Earthquakes" for each year from 1928 to 1937, which are issued by the United States Coast and Geodetic Survey. An important catalog issued under the sponsorship of the Seismological Society of America was the "Descriptive Catalog of Earthquakes of the Pacific Coast of the United States, 1769 to 1928." The list of earthquakes of the earth as a whole is given in the "International Seismological Summary," prepared at Oxford University, England.

#### VOLCANOES

There has been only one reported case of important volcanic activity during the year. This was a strong eruption of Mt. Veniaminof in the Alaska Peninsula beginning May 25. The eruption was severe for a week with many local earthquakes and then died down. There was resumption of activity during June and to a lesser degree in August. Krakatoa was in eruption during June. Izaleo Volcano in El Salvador and Irazu Volcano in Costa Rica exhibited explosive activity during the year. Activity elsewhere appears to have been about normal. There was little volcanic activity in Hawaii, where the usual seismograph, tilt and other observations were obtained.

There was a very interesting attack on a volcanic problem by geophysical methods during the year. A study was made of Santa Maria Volcano in Guatemala which was quite active in 1922. There is still minor extrusion and fumarole activity. The study was made by two laboratories of the Carnegie Institution of Washington, the Geophysical Laboratory and the Department of Terrestrial Magnetism of the Carnegie Institution. Standard magnetic and electric exploration methods were used over the area, in addition to chemical and geological studies.

"The Volcano-Seismic Crisis at Montserrat, 1933-37," by Frank A. Perret, is an excellent scientific study of volcanic activity.

## ECONOMIC GEOLOGY

BY CHARLES H. BEHRE, JR.

PROFESSOR, NORTHWESTERN UNIVERSITY

## GENERAL

Overshadowing all other aspects and conspicuously dwarfing the interest shown in more strictly technical or scientific developments in economic geology has been the threat and final development of war with its accent on self-sufficiency. Stimulated by a similar urge among European nations, the United States, too, though certainly far better supplied with mineral wealth than any other, Russia excepted, has now also turned its attention to domestic reserves of ores, fuels, and industrial non-metallic minerals; especially have the minerals, the demand for which is greatly heightened in war times, such as tin, manganese, chromite, and nickel, received attention. To this end large sums have been appropriated by Congress and an energetic campaign, to be carried on cooperatively by the U. S. Geological Survey and Bureau of Mines, has been embarked upon. The Bureau of Mines is to supervise the necessary trenching and sampling, as well as special studies in milling and the like, while the Geological Survey outlines the areas for exploration and directs the general regional and reserve surveys. Though the change is quantitative, rather than a drastic reversal of principle, it has greatly increased the usefulness of both bureaus and has strongly emphasized in the eyes of the mineral producer the practical values of their work.

The mineral preeminence of the United States is still conspicuous, but the rapid rise of the U.S.S.R. under communism is most conspicuous and not to be denied. Whatever one's political and economic philosophy, it is clear that the Soviet has industrialized and explored the country far beyond its earlier status, and that from Russia alone will come effective competition in world production of mineral supplies; other countries

are competitors, too, but chiefly in one or another of the important products, not of several. The increased interest in state exploration of mineral reserves, therefore, points the direction for wise expansion which is the essence of conservation.

## PETROLEUM GEOLOGY

In the field of petroleum exploration, the conspicuous development has been the rapid rise of the Illinois Basin as a producing field of national importance. Final figures are not available at this writing, but a forecast of 80,000,000 barrels for the year would seem conservative. Even in 1938, Illinois production rose from 7,499,000 barrels in 1937 to 23,929,000 barrels; yet the 1937 total almost doubled that of each of the preceding three years. The policy of shut-down and rational production, practiced in other "boom" states, was not instituted in Illinois by the state authorities, despite strong pleas, reputed to come even from the producers themselves. As a result the national price structure was rapidly passing from bad to worse, and the widely applauded conservational policy, wisely agreed upon by producers and land-owners alike, stood in danger of collapse.

The producing sands in Illinois are chiefly of Mississippian age (Chester and Ste. Genevieve) (L. K. Lee, *Bull. Am. Assn. Petr. Geol.* 23, 1493-1506), but lately new production has come in from Devonian horizons (Bell and Cohee, *Bull. Am. Assn. Petr. Geol.* 23, 807-822) and hope has been expressed that even deeper beds will have appreciable yields. Doubtless the richness of the Illinois Basin will stimulate further search in other basin regions, much as that of the Michigan Basin first directed attention to the possibility of renewed developments in Illinois. With this increased attention to geosynclines goes

increased study of stratigraphy and a shifting of emphasis from purely structural control of occurrence and migration to such features as variations in porosity and conditions of deposition, already so largely stimulated by the concept of "shoestring sands."

The year's literature on petroleum geology is rich in articles of an essentially regional nature, dealing especially with the geology of Texas and Louisiana. A good summary of general developments in 1938 was published in June (*Bull. Am. Assn. Petr. Geol.* 23, 795-948) and served as a forecast for 1939 as well. Of special interest is an article (Sanders: *Bull. Am. Assn. Petr. Geol.* 23, 492-516) comparing the Gulf Coast salt domes with those of the generally little-known Emba field north of the Caspian Sea in the U.S.S.R.; the author concludes that the sizes and forms of salt domes are largely the effect of (1) differences in the overburden and (2) the structural anomalies that initiated salt flowage in each case.

Though also applicable to other fields, the distinguished symposium "Recent Marine Sediments" (edited by Trask, published by Am. Assn. Petr. Geol.) is an outstanding contribution for which debt is due both to the collaborating scientists and to the industry.

#### GEOLGY OF COAL

Coal resources, too, are being carefully studied by the U.S. Geological Survey. Work has continued in the Arkansas-Oklahoma coal fields and in the Wasatch Mountains of Utah. A report (Collier and Knechtel, *Bull.* 905) on the coals of McCone County, Montana, was published by the Survey in October and in the same month another (Andrews, *Bull.* 906-B), dealing with the lignites near Minot, N.D., extensively mined. The Pennsylvania and Illinois State Geological Surveys are also engaged in coal mapping and the last-named is pressing its study of the micro-structure and utilization of Illinois coals. Dapples (*Econ. Geol.* 34, pp. 369-398) showed from field and laboratory studies near Crested Butte, Colorado,

that metamorphism of coal in that locality at least is largely dynamic and related to heat developed by friction.

#### ORE DEPOSITS

Aside from their strategic value, ore deposits have absorbed interest chiefly in connection with ore finding. Two stimulating symposia have recently been prepared and are approaching publication; both deal with geologic structure and its effect upon the localization of ore deposition. One is edited by G. M. Fowler and is under the auspices of the American Institute of Mining and Metallurgical Engineers; the other, sponsored by the Committee on Ore Deposition of the National Research Council, is directed by W. H. Newhouse. This general subject and its bearing on ore finding is also discussed in articles by Wisser (*A.I.M.M.E. Techn. Publ.* 1026), who outlines criteria for recognizing the bottoms of ore shoots and by Schmitt (*Econ. Geol.* 34, 654-673), who assembles data on the characteristics by means of which locally barren ore shoots may be recognized at their out-crops.

The year witnessed the detailed description or re-description of several regions in this country important in metal mining. These included: the Tombstone district, Arizona (Rasor: *Econ. Geol.* 34, 790-803); the iron ores of the Wichita Mountains (Merritt: *Econ. Geol.* 34, 268-286); Leadville, Col. (Behre: *Colo. Sci. Soc. Proc.* 14, 49-79); and Cuban manganese (Norcross: *Mining and Metall.*, 20, 380-383). The literature is also unusually rich in accurate descriptions of individual mines.

The geochemistry and micrography of ores have also received much attention. Lindner and Gruner showed that alkaline hydrogen sulphides are especially effective agents in dissolving and altering metallic ores (*Econ. Geol.* 34, 537-560). Schwartz described structures interpreted as exsolution products in intergrown primary chalcocite and bornite (*Econ. Geol.* 34, 399-418). Gaudin and Dicke (*Econ. Geol.* 34, 49-81, 214-233) outlined a modification of mi-



## MINERALOGY AND PETROGRAPHY

crographic methods dependent on identification by iridescent filming.

Contributions to systematic classification of ores are not as conspicuous as usual. However, Bastin gives an excellent account (*Econ. Geol.* 34, 1-17) of the Co-Ni-Ag type of ore, such as that of Cobalt, Ontario. Chapman describes a stage in precious-metal deposition typified in Bi-compounds (*Am. Inst. Min. Met. Eng., Techn. Publ.* 1105). And the National Research Council's Committee on Ore Deposition has prepared a summary of ore deposition of the Mississippi Valley, edited by E. S. Bastin and to be published in a short time by the Geological Society of America.

Furnival and Tolman have renewed the discussion of the origin of large veins (*Amer. Mineralogist*, 24, 499-507, 519-520). And of conspicuous value to practising economic geologists is the excellent presidential address of D. H. McLaughlin dealing with the valuation of mines (*Econ. Geol.* 34, 589-621).

### INDUSTRIAL MINERALS

The lesser non-metals have received attention jointly from engineers and producers, interested in extraction and preparation, and from geologists, concerned with discovery and reserve estimates. Phosphates have been carefully studied in the United States, both by the staff of the U.S. Geological Survey (Mansfield, Baker, and others) and by state officials (Whitlatch, representing the Tennessee Geological Survey). Clays and shales were investigated by geologists, engineers, and chemists: Garrison discussed their origin, mineralogy and chemistry (*Am. Inst. Min. Met. Eng., Techn. Publ.* 1027); Grim

continued similar studies at the Illinois Geological Survey. Mulryan described the fresh-water diatomites of the Pacific Coast (*A.I.M.M.E., Techn. Publ.* 1057). Kendall outlined prospecting methods for mineral aggregates (*A.I.M.M.E., Techn. Publ.* 1056). Beckwith gave a condensed account of the asbestos and chromite deposits of Wyoming (*Econ. Geol.* 34, 812-843), and Lawrence reported on the distribution and origin of the Sweetwater, Tenn., barite deposits.

Of general interest is the analytical article by Keller and Quirke (*Econ. Geol.* 34, 287-296) on the mineral resources of the chemical industries; they point out especially the integration of the various branches of the chemical industry, resulting in a vertical, as opposed to horizontal industrial structure, even in respect to the basic mineral production.

### ADVANCES IN TECHNOLOGY

Space does not permit a detailed discussion of this phase of the subject. Suffice it to say that processing raises problems which economic geologists must face, as so well brought out at the Tuscaloosa meetings of the Industrial Minerals Division of the American Institute of Mining and Metallurgical Engineers. Similarly, in mapping, the recent discussions of seismic prospecting for oil (*A.I.M.M.E., Techn. Publ.* 1059; *Mining and Metallurgy*, 20, 335-337) and of aerial photography (*A.I.M.M.E., Techn. Publ.* 1081), though each concerned with special fields of its own, can not be ignored by practising geologists, who are more and more required to maintain at least a casual acquaintance with their neighbors in adjacent fields.

## MINERALOGY AND PETROGRAPHY

By CLIFFORD FRONDEL

RESEARCH ASSOCIATE IN MINERALOGY, HARVARD UNIVERSITY

### RESEARCH ON CLAYS

**Synthesis of Clay Minerals.**—The commercially and technologically val-

uable clay-rock termed bentonite, the principal constituent of which is the mineral montmorillonite, is formed



in nature by the chemical alteration of beds of volcanic glass or ash. E. H. Hauser and H. H. Reynolds of the Department of Chemical Engineering, Massachusetts Institute of Technology, have duplicated artificially the natural metamorphosis. Natural volcanic glass or synthetic glass approximating to the composition of bentonite was powdered and heated in acid or basic water solutions at about 300°C. The montmorillonite produced was of the non-swelling type, and that formed in acid solutions showed the adsorptive properties of Fuller's earth. The method may prove to be of commercial importance in countries where natural clays are scarce or in industries where a highly specialized clay is desired in small amounts.

F. H. Norton of the Division of Ceramics, Massachusetts Institute of Technology, has described further experiments on the artificial production of clay minerals. Feldspars and other aluminosilicates were exposed to water containing carbon dioxide at high temperature and pressure in a steel reaction chamber. Kaolinite, sericite, beidellite and gibbsite were formed in the range 250°-300° C. Outside of this range the parent minerals were stable. Contrary to some geological evidence the reaction proceeds at once to the final product without intermediate steps.

**Structure of Clay Minerals.**—Research on the crystal structure of kaolinite and other silicates with sheet-like silica linkages, and on the relation of the structure of such minerals to their physical and chemical properties, has continued at a rapid pace. The structure of vermicularite has been verified by S. B. Hendricks and M. E. Jefferson, of the U. S. Bureau of Chemistry and Soils, by the Weissenberg x-ray method. The mineral consists of silicate layers similar to those of talc, between which are sandwiched layers of water molecules. J. W. Gruner of the University of Minnesota has shown that the water can be displaced by ammonium, with the formation of an ammonium mica. Hendricks has also investigated several sheet-type silicates in

relation to the water adsorptive properties of clays. The adsorbed water molecules apparently are held in hexagonal net-like arrangements upon the surface of the silicate sheets. The iron clay-mineral cronstedtite has been shown to have a sheet-type structure, and evidence is found that iron can not enter kaolinite to a significant amount. The latter fact has important consequences in the formation of soils.

**Adsorptive Clays of the Gulf Coast.**—A. F. Hagner has presented a general survey of the clays of the Texas Gulf coastal plain, as part of a program of clay-mineral study which has been carried on at Columbia University for a number of years. The clays are the result of alteration in situ of volcanic ash, and find wide application in the petroleum industry. Montmorillonite is the dominant mineral constituent. The geological occurrence of the clay and the relation of adsorptive capacity to mineralogical and structural features are described at length.

#### DIAMONDS

**Hardness.**—The comparison "hard as a diamond" should be qualified, for the hardness varies materially on the different crystal faces of the diamond and also with the direction in the faces. This has been common knowledge to diamond cutters who found from experience that it was impossible to polish natural diamond crystals parallel to the octahedral faces. Dodecahedral and especially cube faces are softer. The hardness has now been discussed by E. H. Kraus and C. B. Slawson of the University of Michigan who find that the observed variation parallels the relative intensity of the bonding forces acting between carbon atoms in the various faces. The seemingly contradictory fact that diamonds can be polished by their own dust is a consequence of the random orientation of the abrading particles, a portion of which present relatively hard faces and hence can cut the large stone in its directions of inferior hardness.

**Diamonds in Meteorites.**—Diamonds were first reported in meteor-

ites in 1888 in the iron of Nowo-Urei, Russia. The meteorite was estimated to contain about 85 carats of microscopic diamonds. Later, diamonds were reported from the Canyon Diablo, Ariz. meteorite and from a few other falls. Moissan was led by these observations to his famous experiments on the crystallization of carbon as diamond from quenched cast iron. All of the reported syntheses and meteorite occurrences, however, have been considered doubtful for lack of certain identification. C. J. Ksanda of the Geophysical Laboratory and E. P. Henderson of the U. S. National Museum have re-examined a Canyon Diablo meteorite and have confirmed the occurrence of diamonds therein by x-ray and optical study. The mineral occurs with graphitic material in troilite nodules.

## SPECIFIC GRAVITY DETERMINATION

A torsion microbalance for the determination of specific gravity has been devised by H. Berman of Harvard University and brings a decided advantage in the measurement of this useful and fundamental property of minerals. Determinations can be made in five or six minutes on fragments or powders 10 to 50 milligrams in weight, to an accuracy of about 0.2 per cent. An improved technique for gravity measurement by the micropycnometric method has been described by C. J. Ksanda and H. E. Merwin of the Geophysical Laboratory, Carnegie Institution.

## CRYSTAL OPTICS

The paths of the ordinary and extraordinary rays of light through anisotropic media and the indices of refraction corresponding to these directions is of fundamental importance, but the subject has received confused and in part erroneous treatment in textbooks. T. T. Quirke and W. C. Lacy of the University of Illinois have quantitatively measured these optical constants and their variation with direction in specially prepared test pieces of calcite. Their experiments afford a simple and conclusive

demonstration that the extraordinary ray surface in calcite is an ellipse, and that the wave normal leaves the elliptical test piece normal to the tangent at the point of emergence without refraction. In cylindrical test pieces the vibration directions of this ray are oblique to the spherical wave front of the ordinary ray and are refracted at emergence from the calcite.

## PYROSYNTHESIS OF SULPHIDE MINERALS

The sulphosalts of copper with arsenic, antimony or bismuth have been synthesized by the fusion method by A. M. Gaudin and G. Dicke of the Montana School of Mines. The solid solubility, microstructures and phase relations of the observed compounds are discussed at length and a diagram proposed for part of the copper-bismuth-sulphur system.

## STAINING TECHNIQUES IN PETROGRAPHY

The speed and accuracy of the Rosiwal method for the modal determination of rocks is reduced in the presence of minerals that can not be immediately distinguished in thin section by inspection. M. L. Keith of Queens University, Kingston, Ontario, has described a technique by which mixtures of plagioclase, potash feldspar, nepheline and other easily confused minerals are selectively stained by dyes or sodium cobaltinitrite and their separate identity thus made apparent.

The compositional zoning commonly present in crystals of nepheline has been similarly investigated by S. J. Shand of Columbia University. By suitable treatment with acid and dye, growth zones of varying composition are selectively tinted. Zoning in nepheline was found, by comparative staining of material of known composition, to be due to variation in silica content of the mineral and not to the presence of potash in excess or of lime.

## ROEBLING AWARD

The second award of the Roebling Medal of the Mineralogical Society

of America has been made to W. T. Schaller, distinguished mineralogist and chemist of the U. S. Geological Survey.

#### NEW MINERALS

*Descriptive List of the New Minerals* by G. L. English (New York, 258 pp, 1939) contains an alphabetical list of over 2,200 mineral names that have appeared in the literature during the 46 years since the last edition of Dana's *System*. About 60 new mineral names, many trivial, were proposed during 1939.

*Triewite* and *cuproasbolane* are hydrous oxides of copper with manganese or cobalt from the copper deposit of the Belgian Congo. A hydrous carbonate of uranium from the Belgian Congo has been named *sharpite*, after R. R. Sharp who discovered in 1915 the uranium deposits of Chinkolobwe. The mineral occurs as green fibrous crusts with uranotile and curite. A new barium feldspar, *kasoite*, has been found in the manganese deposit of the Kaso mine, Japan. *Teineite* is a blue hydrous sulphate and tellurate of copper from the Teine mine, Hokkaido, Japan. A new fluoride of sodium, magnesium, and aluminum from the cryolite deposit of Ivigtut, Greenland, has been named *weberite*. The names *khoharite* and *gralmandite* have been proposed for hypothetical molecules believed to be present in certain garnets. A massive colloidal variety of zinc sulphide from near Cerro de Pasco, Peru, has been called *brunkite*.

*Kotoite* is a magnesium borate found in marble with forsterite and other contact minerals at the Hol Kol mine, Korea, and Rezbanya, Roumania. A new basic iodate of copper from Chuquicamata, Chile, has been named *salesite*, after Reno Sales, chief geologist of the Anaconda Mining Co. A blue silicate of copper and calcium found coating lava at Vesuvius is termed *cuprorivaite*. *Colusite* from the copper deposit at Butte, Montana has been re-examined and found to belong to the tetrahedrite group. The mineral is unusual in containing tin and tellurium. During

1934, Borax Lake in California became almost completely dry, and in the crusts of salts remaining a new double-salt of sodium borate and sodium chloride was found. The mineral, for which the name *teepleite* is proposed, occurs with borax and trona. *Shortite*, a double carbonate of sodium and calcium, was recognized in a drill core of clay shale in a test gas well in Sweetwater County, Wyoming. A new oxide of bismuth and tungsten found in ore concentrates at the Castle-an-Dinas tungsten mine, Cornwall, England, is named *russelite*. A new yttrium mineral, *abukumalite*, has been found associated with other rare earth minerals in a pegmatite in Fukushima prefecture, Japan. *Gratonite* is a hexagonal sulpharsenide of lead from Cerro de Pasco, Peru. The uranium-calcium carbonate, *dakeite*, described as new a few years ago, has been shown to be identical with schroekingerite. *Goldschmidtite* is an antimonide of silver found at Andreasberg, Germany, and has hitherto been confused with dyscrasite.

#### NEW BOOKS

A third edition of *Gems and Gem Materials* by E. H. Kraus and C. B. Slawson (New York, 287 pp, 1939) has been published. The new edition is timely in view of the recent marked increase in popular interest in the collecting and polishing of semiprecious stones. Four notable color plates and 344 black and white illustrations add to the text. *An Introduction to Crystal Chemistry* by R. C. Evans (Cambridge, 388 pp, 113 figs., 1939) is a clearly presented account of interatomic bonding forces and lattice theory, metals and alloy systems, and homopolar, ionic and molecular compounds. It is designed primarily for the university student, but no special crystallographic knowledge is necessary for the reader. Another new book in the field of crystal structure is *Angewandte Kristallstrukturlehre* by E. Brandenberger (Berlin, 208 pp, 88 figs., 1938). This work considers the geometrical and crystallographical background of crys-



## TERRESTRIAL MAGNETISM AND ELECTRICITY

tal structure determinations, including interference data, space and point groups, and symmetry, and is intended as a guide in the use of the International Tabellen zur Bestimmung zur Kristallstruktur. *Manual for Sedimentary Petrography* by W. C. Krumbein and F. J. Pettijohn (549 pp, 1939) is the first compre-

hensive American book in this field, and the soil geologist and sedimentary petrologist should find it an extremely useful text. *Strategic Mineral Supplies* by G. A. Roush (New York, 485 pp, 1939) is a study made from a military point of view of world mineral supplies as they concern the United States.

## TERRESTRIAL MAGNETISM AND ELECTRICITY

By JOHN A. FLEMING

CARNEGIE INSTITUTION OF WASHINGTON

### NORTH AMERICA

**Observatories.**<sup>1</sup>—The United States Congress has appropriated funds for the construction of a new magnetic observatory near Sitka to replace the present Sitka Observatory which has been in operation for 40 years but which has become magnetically disturbed because of extensive building improvements in Sitka.

The Missouri School of Mines and Metallurgy at Rolla is constructing a small magnetic observatory which it is hoped may be in operation by the spring of 1940; the ten-acre site is about a mile from the campus of the School and seems well safeguarded against the possibility of further artificial disturbance.

The construction of the geophysics building at the Colorado School of Mines was begun. This building includes, among other laboratories devoted to practical geomagnetic aspects, a magnetic laboratory intended chiefly for instruction in the principles of operation and calibration of prospecting magnetometers. An electrical laboratory provides for instruction and research in self-potential, equipotential-line, resistivity, and electromagnetic and inductive electrical methods.

**Byrd Antarctic Expedition.**—The United States Antarctic Expedition, prepared by the United States Antarctic Service, sailed from Philadelphia Oct. 27, 1939, for Little America

under the leadership of Rear-Admiral Richard E. Byrd. During the sojourn of two or three years in the Antarctic a scientific program is planned to include geomagnetic, auroral, cosmic-ray, radiotelegraphic, and seismological observations. A magnetic observatory is to be established at Little America or elsewhere on the Continent within the band of maximum auroral frequency, depending upon conditions encountered. Magnetic observations are to be made at various points on the Antarctic Continent which will be reached by the snow-cruiser, a new feature of the expedition. The results will be of great value in geomagnetic studies and other geophysical investigations for the Antarctic region where data are scant.

**Surveys.**—The magnetic survey of the United States was continued by the U.S. Coast and Geodetic Survey. Twenty-seven stations (complete for all three elements) in Alaska and 49 stations (the majority for declination only) in the United States were occupied during 1939.

In Mexico the magnetic survey was continued by the National Astronomical Observatory and eight secular-variation measurements were obtained. In Guatemala 12 stations—most of them repeat-stations—were occupied by the Carnegie Institution of Washington.

The magnetic survey of Canada by the Dominion Observatory was continued. Arrangements were made for a six-year program of magnetic and

<sup>1</sup>For details regarding the Institutions in charge of the observatory work see THE AMERICAN YEAR BOOK, 1938 (pp. 697-704).



gravimetric measurements in Greenland by the Danish Government; this includes adequate field-instruments and portable field-observatories.

The program of research on the aurora borealis, sponsored jointly by the National Geographic Society and Cornell University, was continued. Dr. C. W. Gartlein of Cornell University, in charge of these studies, reports that at Ithaca the illumination from the aurora during the brilliant display of Aug. 11 was almost like full moonlight and that automobiles were driven without headlights. The stations obtained a number of photographs in natural color as well as spectrograms and an automatic photoelectric record of brightness of the latter portion of the display.

#### **SOUTH AMERICA**

**Observatories.**—The following magnetic observatories were continued in operation during 1939: Pilar, La Quiaca, South Orkneys, and San Miguel in Argentina; Vasouras in Brazil; and Huancayo in Peru. Progress was made in establishing the Geophysical Institute of the Northern Andes near Bogotá.

**Surveys.**—During 1939 the magnetic survey of the Argentine Republic was extended by the occupation of 38 stations. The Government plans to continue the survey and to occupy a total of 1,000 stations within the next few years.

#### **WORLD SURVEY**

**Pacific Regions.**—The Carnegie Institute of Washington continued its full program at the Watheroo Magnetic Observatory, its cooperation with the Apia Observatory, and its cooperation in field-work with the Aertal, Geological, and Geophysical Survey of Northern Australia and the Adelaide Observatory of South Australia.

**Magnetic Standards.**—The control of magnetic standards was maintained at the Cheltenham Magnetic Observatory in cooperation between the U.S. Coast and Geodetic Survey and the Department of Terrestrial Magnetism of the Carnegie Institution of Wash-

ington. It is expected that the absolute electromagnetic standard instrument for the three components will be installed there in 1940 as it is now approaching completion in the instrument-shop of the Department of Terrestrial Magnetism.

#### **GEOMAGNETISM**

Investigation of secular variation in declination was forwarded by determinations of the magnetic polarization of varved clays left by the retreat of the last glaciation from New England. The results indicate that this method will supply data on the variation in the Earth's magnetic field in the past ages, knowledge which is essential to the understanding of the nature and origin of the general magnetic field.

Isoporic charts were constructed for the north and east components of secular change for the epoch 1920-1925. Tests were developed for assisting in estimating the accuracy of isoporic maps of the Earth, using line-integrals of the field of the magnetic secular variation. An approximate derivation of a world-wide representation of secular change was obtained by an equivalent isoporic magnetic shell just beneath the Earth's surface. The dissipation of energy from the Earth, caused by the field of secular variation, was found to be relatively much smaller than in the cases of other sources of dissipation of energy within the Earth.

To test the effectiveness of magnetic methods as an approach to volcanological problems, a magnetic survey was made in the region about the Santa Maria Volcano in Guatemala. Variations in vertical intensity of the magnetic field, amounting to 15 per cent of the total vertical intensity, showed high correlation with known structural features of the region.

Geomagnetic time-variations are closely correlated with solar phenomena; this relation is statistical in nature, that is, similar solar events may be associated with very different geomagnetic effects in individual cases. Thus magnetic variations may be regarded as records of the varia-

bility of certain solar influences on the Earth and may often form a more suitable basis for statistical work on solar and terrestrial relationships than direct solar observations.

When particles ejected from the Sun's surface penetrate into the Earth's outer atmosphere, they cause auroras and affect radio communication. A faithful and continuous record of the fluctuations in this corpuscular radiation is obtained by magnetic observations which register its influence on geomagnetic activity, that is, on the intensity of magnetic disturbance, which varies from complete quietness to violent magnetic storms. Day-by-day measures of this phenomenon have been given for many years in the magnetic characteristics. However, more detailed and accurate information is urgently desired, especially in connection with the direct exploration of the ionosphere by radio methods. This is now provided by the three-hour-range index *K* inaugurated by the International Union of Geodesy and Geophysics. For the eight three-hour intervals of each Greenwich day, each collaborating observatory assigns one of the integers 0 to 9. This new measure was studied for the sunspot-maximum year 1938 and found to be an entirely satisfactory abstract of the world-wide and local features of geomagnetic activity.

In addition to the records on solar corpuscular radiation, data on the fluctuations of solar ultraviolet (wave) radiation from the regular daily magnetic variations show even closer relationship with the solar cycle than magnetic activity. Studies in progress show that it will be possible to provide, from geomagnetic records, reliable data on the fluctuations of both kinds of solar influences on the Earth; since these radiations are absorbed in the ionosphere and therefore can not be observed directly at the Earth's surface, these data not only supplement direct astrophysical observations of the Sun but also form basic material for future studies on physical and biological effects of solar phenomena.

## TERRESTRIAL ELECTRICITY

Further information about the "supply-current," that electric "current" of unknown origin which maintains the negative charge of the Earth, was sought in a study of the electric conduction-current in the atmosphere deduced from measurements made at College (Alaska), at Watheroo (Western Australia), and at Huancaayo (Peru). It is noteworthy that the only places in the world where registrations are being made, which give a practically continuous record of the transfer of electricity from air to Earth, are at observatories of the Carnegie Institution of Washington, at the Tucson (Arizona) Magnetic Observatory of the U.S. Coast and Geodetic Survey, through cooperation with the Institution, and at the Kew Observatory (England). The average magnitude of the total supply-current (about 1800 amperes) and the character of the variation during the day, first revealed by observations made on the later cruises of the *Carnegie*, were verified, and evidence is seen that, upon completion of this study, these data will doubtless reveal some information about the annual variation of the supply-current. The anomalous type of diurnal variation of the potential-gradient at Watheroo was shown to be due to local factors which apparently do not reach high enough in the atmosphere to affect the diurnal variation of the electric conduction-current, a circumstance favorable for the use of these data for such fundamental investigations as that outlined above.

The rate of formation of small ions in a laboratory-room was found to decrease when the room was occupied and when, as a result of the latter, the concentration of condensation-nuclei increased. Mathematical tools which aid in the study of the effect of the electric field, acting in conjunction with other factors, in modifying the distribution of small ions near the Earth's surface, were improved and tested.

A high correlation between the activity of electric currents in the Earth and solar activity, as measured by sunspot-numbers, was more com-

pletely verified, and this correlation was shown to hold for month-to-month variations.

Geoelectric phenomena in the vicinity of the Santa Maria Volcano, Guatemala, were observed, as part of an extensive, coordinated study of that Volcano. A most extraordinary feature appeared in the registrations of earth-potentials, namely, that the range in the variations of the potential-gradient in the Earth near the Volcano, the more conspicuous of which are manifestations of the general earth-current circulation, on normal days far surpasses that in any other registrations of earth-potentials.

### COSMIC RADIATION

Investigation of the world-wide effect at different stations was continued by S. E. Forbush of the Carnegie Institution of Washington. He found that the cosmic-ray intensity is practically always lower for the five international magnetically disturbed days than for the five international magnetically quiet days of each month, which is in accord with the magnetic-storm effect. The 13.5-day and 27-day waves in cosmic-ray intensity are closely associated with those for character-figure and magnetic horizontal intensity. When tested statistically, the component of the 27-day wave, which might be ascribed to an inclined solar magnetic moment, was found too small to be significant.

T. H. Johnson, of the Bartol Research Foundation of the Franklin Institute, made good progress in his study of the east-west symmetry of cosmic-ray intensity. Eleven balloon flights were secured in the Canal Zone, using the triple-coincidence Geiger-Müller counter-apparatus. His analysis of the data obtained indicates that the mesons of the hard component are not produced by electrons but by some other type of positive particle, most probably protons. S. A. Korff, also of the Bartol Research Foundation, devoted attention (1) to single Geiger-counter measurements with reference to effects of solar flares and diurnal effects at high altitudes, (2) to comparisons of measurements

by counters and electroscopes, and (3) to neutron-measurements through development of special counters and balloon flights.

R. A. Millikan and his associates, at the California Institute of Technology, continued their studies in (1) measuring atmospheric temperature-effects at sea-level, (2) measuring cosmic-ray energy entering the atmosphere at different latitudes, (3) developing high-speed Geiger-Müller counters, and (4) measuring energies, absorptions, and scattering of cosmic rays with cloud-chambers.

A symposium on cosmic rays was held at the University of Chicago, June 27-30, 1939, attended by some 60 active workers. Thirty papers representing current research were presented in the following groups: (I) The intensity of cosmic rays; (II) time-variations of cosmic rays; (III) composition of cosmic rays; (IV) production of secondary radiation. [These papers, and discussions, are published in *Review of Modern Physics*, July-October, 1939.]

### IONOSPHERE

A new measure to give a satisfactory description of the variation of the actual height of maximum electron-density was developed. A method was obtained whereby the thickness of an ionospheric layer may be deduced; it, together with the magnitude and height of maximum electron-density, completes the description of the main features of an ionospheric layer. As regards the region immediately below the *E*-region, new experiments were made at the Department of Terrestrial Magnetism for the first time indicating the possibility of obtaining information up to the level of this region by the use of a searchlight beam.

Intercomparisons of simultaneous values of ion-density in the highest region (*F*<sub>2</sub>-region) of the ionosphere at Watheroo and Canberra show that large fluctuations occur which can not be explained simply on the basis of uniform ionizing radiation. This discovery introduces a new factor into ionospheric investigation and demonstrates that, except in the average,



observations from one station are not representative of more than a certain limited area as regards the important  $F_2$ -region.

A new phenomenon was discovered. About two hours before sunrise a bank of ions of density about 10,000 electrons per cc moves downward from the 250-km level. This comes to rest at about 140 km in about an hour and decreases in ion-density because of recombination. At sunrise the ion-density of this bank increases, when it is recognized as the  $F_2$ -region. The  $F_2$ -region, from which the ions are abstracted as the newly discovered bank moves downward, suffers a depletion in ionization. While this dip of  $F_2$ -region ion-density had been previously reported, it was not realized that the decrease was caused by downward movement of ions out of the bank. The discovery that such movements and separation of ion-banks can occur in the absence of direct sunlight opens a new field for theoretical work on physics of the upper atmosphere.

Further studies of the correlation of conditions of radio transmission and magnetic activity were made. For the first four months of 1939 a correlation-coefficient of 0.74 was obtained between daily values of the American magnetic character-figure and the transmission-disturbance figure of the Bell Telephone Laboratories, a number proportional to the depression of signal-strength below normal in decibels. A correlation-coefficient of 0.70 was obtained between the Potsdam "Kennziffern" and the transmission-disturbance figure for the same period. The correlation-coefficient relating the American magnetic character-figure to the "Kennziffern" for the same period was 0.93, a remarkably close agreement for two independent measures of magnetic activity.

#### MAGNETIC INSTRUMENTS

There were some improvements in designs of magnetic instruments following (1) the development of better magnet steels and (2) the introduction of electromagnetic methods.

The quartz horizontal magnetometers, developed by la Cour of the

Danish Meteorological Institute in Copenhagen, were tried as field-instruments for rapid determinations in horizontal intensity with considerable success by the U. S. Coast and Geodetic Survey. The new transit-magnetometer, designed by the Survey, gives increased accuracy when only magnetic declination is required; it is also being adapted to the determination of horizontal intensity. The Survey is studying improvement of the Schmidt type of vertical-intensity variometer for more ready field-use and is developing technique for procedure at observatories. It is developing a portable magnetic field-observatory for use at temporary stations to supply corrections to mean epoch for field-observations made in the neighborhood.

The Carnegie Institution of Washington is completing the electromagnetic standard of high precision for absolute determinations of all components of the Earth's field. The Institution has completed the plans for an electromagnetic magnetometer for field-use and is investigating the feasibility of using electromagnetic methods for variometers and recorders at observatories.

#### INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS

The Seventh General Assembly of the International Union of Geodesy and Geophysics was held at Washington, D.C., Sept. 4-5, 1939, with a registration of 537 delegates and guests from 26 nations. One of the seven associations which constitute this Union is the Association of Terrestrial Magnetism and Electricity to which 116 reports and scientific papers were presented. The results of the discussions were embodied in 12 resolutions as follows: (1) Normalized spherical harmonics of Adolf Schmidt were recommended for general use in geophysical research; (2) The cooperation of magnetic observatories are to be sought for a three-year period in an international trial-scheme for the provision of three-hour-range indices to characterize the variation in the degree of irregular magnetic activity throughout each day, such in-



dices furnishing interested bodies more detailed information than the daily character-figures; (3-5) The needs for testing of non-magnetic material for instruments, for regular control of variometers and absolute instruments, and for improvement of geomagnetic instruments and methods, were stressed; (6) Desirability was expressed of determining, by observations at special repeat-stations, to what extent local magnetic anomalies are reflected on the secular change; (7) Suggestion was made that the daily duration of negative atmospheric potential-gradient be supplied by all stations recording that element; (8) Two central bureaus (Copenhagen and Washington) for magnetic data and a secular-variation program were designated; (9) An international convention was adopted for magnetic vertical component; (10) Definite recommendations were made regarding the data to be included in observatory-publications; (11) The Association further indicated the desirability of making magnetic observations at a station in Guatemala; (12) The Union strongly recommended that interested governments make provision for the building of non-magnetic vessels to continue geomagnetic determinations at sea.

#### SIXTH PACIFIC SCIENCE CONGRESS

The sixth Pacific Science Congress was held at Berkeley, Stanford University, and San Francisco, July 24 to Aug. 12, 1939. Five papers in a symposium on "Magnetic data and structure of the Pacific Ocean" dealt with terrestrial magnetism and electricity.

The Congress, because of the great need to continue the magnetic-survey work at sea, adopted a resolution urging the building of non-magnetic vessels for the magnetic survey of the oceans by the various governments interested in this important work, including Australia, Chile, Colombia, Ecuador, Japan, Mexico, New Zealand, Peru, Union of Socialist Soviet Republics, and the United States of America. The Congress in a resolution also strongly advocated the building of a suitable non-magnetic

vessel by the U. S. Government for determinations of magnetic anomalies and secular variations along the coasts of the United States and its territories to obtain information for magnetic charts of the oceans and islands so essential to the survey of navigation by sea and air.

#### PUBLICATIONS

*Terrestrial Magnetism and Electricity* (xii + 794 pages), Volume VIII of the series "Physics of the Earth," sponsored by the National Research Council, was published in August 1939 by McGraw-Hill. Under the editorship of J. A. Fleming 14 investigators contributed to this volume which aims to provide a stimulating reference book to enlist interest of a larger group of investigators. An unusual feature is the chapter of bibliographical notes and selected references which is a valuable research tool and which summarizes the many sources of publication bearing on, and the many international, national, and private organizations interested in, geomagnetism and geoelectricity. It includes the outstanding references in the large literature on this subject scattered through many scientific reports and magazines in all parts of the world.

The *Quarterly Journal of Terrestrial Magnetism and Atmospheric Electricity*, published by the Johns Hopkins Press, completed during 1939 its forty-fourth annual volume. Besides leading articles, it includes sections on magnetic storms, magnetic character-figures, ionospheric data, sunspot-numbers, and notes. The *Transactions* of 1939 of the American Geophysical Union include papers presented at the twentieth annual meeting of the Union, including those of its Section of Terrestrial Magnetism and Electricity; numerous articles and reports reflect the progress of geomagnetic work in North America.

Science Service continued publication of the American Ursigrams of geophysical data through its weekly *Research Aid Announcements*, including the American magnetic character-figures for each Greenwich half-day.

## METEOROLOGY AND CLIMATOLOGY

The U. S. Department of Commerce published *The Magnetic Results of the Tucson Observatory from 1929 to 1930*, a reprinted edition of *Magnetic Declination in South Carolina in 1935*, and a pamphlet entitled "Practical uses of the Earth's magnetism" (serial No. 618).

The thirty-sixth annual report of

the Director of the Department of Terrestrial Magnetism of the Carnegie Institution of Washington (issued Dec. 15, 1939) abstracts that Department's geomagnetic and geoelectric work done during the year ended June 30, 1939, and gives a complete bibliography of published papers.

## METEOROLOGY AND CLIMATOLOGY

By ROBERT G. STONE

BLUE HILL OBSERVATORY, HARVARD UNIVERSITY

### TRENDS, PROGRAMS, RESEARCH

The year witnessed unusual expansion of practical services and observational programs. These include notably more airways service both on land and for the new trans-Atlantic lines, continued improvements to the flood-forecasting program, and more general forecasts per day for the public. There was a marked increase in the amount of upper air observations, especially by radiometeorographs (-radiosondes).

Judging from the contents of the professional meteorological journals and the discussions among meteorologists, interest was running high concerning such matters as the study of tropical hurricanes, the development of more specialized forecasts for particular industries, greater use of upper air data in forecasting, and better arrangements for making forecasts available more promptly and frequently.

Research was apparently more abundant than in previous years (it has been increasing steadily) and noteworthy results were announced in regard to: problems of radiation in the atmosphere, evaporation measurement, robot-radio weather reporting stations, the technique of isentropic analysis of upper air currents, the nature of the hurricane of September 1938, the forecasting of upper winds over the oceans for aviation, the forecasting of hurricanes, the characteristics of anemometers, the relations between changes of pressure and changes of temperature in the upper air with passage of cyclones and anticyclones,

the physics of clouds and cloud drops, the relation of lightning to thunderstorm structure, the possibility of long-range forecasts from weekly-mean pressure charts of the northern hemisphere, and the use of radio reflections to trace boundaries in the lower atmosphere—to mention only some of the more significant subjects.

### INTERNATIONAL COOPERATION AND THE WAR

The International Union of Geodesy and Geophysics met at Washington in September, attracting a large group of meteorologists, including some from abroad in spite of the war. The Royal Meteorological Society and the American Meteorological Society met jointly at Toronto, Aug. 28, 1939. Owing to the war and to unparalleled opportunities afforded by our extensive system of upper air soundings, this country is drawing some prominent meteorologists from Europe and has the opportunity to assume unquestionable world leadership in both practical and theoretical phases of the subject. Several refugee meteorologists have found place among us, also. The United States was taking an increasing role in international cooperation among meteorological services, through the quasi-official International Meteorological Organization, but the war has abrogated much of this for the time being. The International Meteorological Organization is scheduled to meet in this hemisphere for the first time in history in 1941.

## XX. GEOPHYSICAL SCIENCES

The war has embarrassed the weather services of nearly all countries through cessation of the much needed daily radioed reports from ships at sea and from belligerent countries. Only American ships now report to any extent, and observations for the trans-Atlantic air service are especially inadequate. For the latter the Government will probably have to supply special observing ships without the cooperation of the other interested nations originally counted on. In the Pacific the situation is not so serious yet but may become worse. The vital Canadian weather reports are furnished to our Weather Bureau daily by wire but withheld from publication till a week late. The World War was a great stimulus to meteorological advancement owing to the pressure to obtain maximum information and essential forecasts from limited observations; it will be of interest to see what special developments the present war will lead to, but the military meteorological services reputedly have been keeping "secret" devices for some time. Weather and climate play many strategic roles in wartime.

### WEATHER BUREAU

The first year of the Bureau under its new chief, Commander F. W. Reichelderfer, was marked by acceleration of the improvements initiated by the late chief, Dr. Gregg, and by new expansions and reorganizations in various phases of the service. The appropriation for the fiscal year 1939-1940 was \$1,750,000,000 larger than for 1938-1939, and the largest in the history of the Bureau.

### UPPER AIR SOUNDING STATIONS

All the upper air sounding stations were converted from the use of airplanes to use of radiometeorographs and the number of stations increased to 26 which, with Army and Navy stations (also mostly radiometeorographs), gives a total of some 33 stations (continental and territorial). This network of daily soundings into the stratosphere affords a more extensive picture of the upper air than available to the forecasters of any

other nation. It remains to find more time and ways as well as ideas for using this data in actual practice of daily forecasting. For the first time an adequate amount of data is at hand to experiment fruitfully in this direction. In the spring of 1939, a "campaign" of radiometeorograph soundings was made over the western Atlantic region; the U. S. Weather Bureau, Coast Guard, Massachusetts Institute of Technology, and Harvard University cooperating from ships and land. There were soundings made at Azores, Iceland, and the French *S. S. Carimaré* at the same time.

### AIRWAYS SERVICE

The Bureau has the assistance of the W.P.A. in projects of putting millions of observations of weather made on the airways and of upper winds from pilot balloons on to punch-cards for statistical summarization and analysis by machine.

The service in aid to aircraft navigation on the scheduled airways was expanded and improved by more stations and new routes, by better instruments, and by a new set of instructions to the observers. There are now 720 points for airways service and for observations in the United States.

Special airways service is being organized for the trans-Atlantic lines. This will consist of special observation boats to be stationed at more or less fixed positions at sea along the route and at other meteorologically strategic points. Also the collection, exchange, and distribution of observations from all ships available will be centralized for the purpose, and forecasts issued for the flights in cooperation with the air lines. Pan-American airways had already organized its own weather service for their trans-Atlantic flights.

### WEATHER FORECASTS FOR THE PUBLIC

Radio broadcasts of "breakfast-table" forecasts at about 7:30 a.m., based on 1:30 a.m. weather maps, were inaugurated from many Weather Bureau offices in the larger cities. This was made possible by arranging



## METEOROLOGY AND CLIMATOLOGY

for these offices to make four weather maps a day instead of two as before, thus permitting more frequent revisions and greater freshness and short-range accuracy of the forecasts for the general public—in effect extending to others some of the sort of service hitherto given only to the airways.

Forest-fire-danger-rating service was established in New England on account of the hazard from the blow-downs during the hurricane of September 1938. A very detailed study of the New England hurricane was published in the *Monthly Weather Review*.

### OTHER SERVICES OF THE WEATHER BUREAU

The river and flood warning service continued the process of reorganization and improvement undertaken several years ago. In addition, a winter-sports bulletin was inaugurated for the northeastern, some north central, and some western states, where there is a growing demand for them.

In the marine service, publications of value to mariners were made. The pilot-chart climatic data are being gradually brought up to date and a handsome new "Climatic Atlas of the Oceans" was issued. Cooperation in an international program of research on sea swells, which endanger shipping, was carried out during November, 1938. Detailed charts of ocean surface temperatures in the western North Atlantic were also published.

As an aid to the forecasters, good cloud observations are often of crucial value. The Bureau issued new books on clouds to its observers, to improve the observations and to make them uniform with international usage.

Representatives of the Bureau took part in conferences of International Meteorological commissions, at Montevideo (February) and in Berlin (June).

In 1939 the International Numeral Code for transmitting weather observations by radio and wire was adopted by the Bureau. This was a much debated and difficult step, but the advantages of greater brevity and speed and international uniformity

outweighed the inconvenience of the change.

The study of long-range forecasting under Bankhead-Jones funds continued with the cooperation of Massachusetts and California Institutes of Technology. Some discoveries of promise concern the factors that determine the displacements of the great anticyclonic "centers of action" in the general circulation of the northern hemisphere. The intensity of the west to east flow of air around the mid-latitudes seems to vary in a certain relation to the patterns of highs and lows on the weekly-mean pressure chart for the northern hemisphere. Studies of radiation absorption and transfer in the atmosphere at the California Institute of Technology and University of Rochester were continued with cooperation from the Bureau through Bankhead-Jones funds.

### BUREAU RESEARCH

A number of valuable research papers were published by the Bureau concerning: isentropic analysis, upper wind computation, rainfall on the Great Plains, the Southern California floods of February, 1938, the observations of the Byrd Antarctic Expeditions, and of the McGregor Greenland Expedition, ozone and solar radiation measurements, theoretical dynamic meteorology, and thunderstorm electricity, to mention only the more ambitious reports. The interests and work of the Bureau thus cover a wide range of problems, not all of which make newspaper headlines.

Dr. C. G. Rossley left the Massachusetts Institute of Technology to become assistant chief of the Bureau in Charge of Research and Education. Under his direction a comprehensive program of fundamental research is being pursued and "training in service" is being given to many employees.

### RESEARCH OUTSIDE THE WEATHER BUREAU

At the Massachusetts Institute of Technology the technique of isentropic analysis is being advanced by Namios. Elsasser at the California Institute of Technology is doing



## XX. GEOPHYSICAL SCIENCES

important work on atmospheric radiation. At the Blue Hill Observatory of Harvard University, Lange and Pear have built a radio-reporting-robot weather station which has worked over distances of 45 miles; Schell is working on long-range forecasts for this country using the system of Walker, and Fergusson published a study of anemometers; J. J. George and assistants of Eastern Air Lines have published valuable studies on fogs in southeastern United States. E. J. Arniser of T. W. A., Inc., published a study of lightning strikes on aircraft in flight. Thornthwaite and Holzman of the Soil Conservation Service have developed a new method of measuring evaporation which will give a fairly accurate index of the actual loss of moisture from a landscape (soil and vegetation). Brooks, Loren-

zen, and Boelter of the University of California are making important fundamental studies of the radiation and other factors producing frosts that affect fruit in California orchards. A statistical analysis of upper air temperatures and pressures by Hourwitz of the Canadian Meteorological Service was published by the Blue Hill Observatory of Harvard.

Many other only slightly less important studies were published, and other projects are under way for which no definite results have been announced; it would be impossible to list all these contributions here, but taken as a whole, meteorological research is steadily growing in quality and quantity in this country. The United States Weather Bureau is now assuming leadership in much of this work.

## AMERICAN EXPLORATION

By ROBERT M. BROWN

PROFESSOR, RHODE ISLAND COLLEGE OF EDUCATION

### POLAR REGIONS

**Byrd Expedition.**—Rear Admiral Richard E. Byrd sailed in November, 1939, for his third expedition to the Antarctic. Two ships, the Interior Department's ice ship, *North Star*, and the *Bear of Oakland*, formerly used by Byrd, carried the equipment, provisions and personnel. The expedition will attempt to settle two stations in the area sighted from an airplane by Lincoln Ellsworth and named James S. Ellsworth Land, and thereby further America's claims to this territory and to Marie Byrd Land by establishing a quasi-colony. Another base will be located in or near Little America. Scientific exploration of far-reaching importance will be inaugurated. It is hoped that weather reports from permanent bases will result in a more complete world weather map and permit more accurate long range weather forecasts to the benefit of agriculture and industry everywhere. Again, an investigation will be made of the land bridge, of which Antarctica is be-

lieved to be a part, that connected South America to Australia. This would complete the great "earthquake ring" by connecting the Rocky-Andes mountains to those bordering eastern Asia. Included in the personnel will be Dr. F. Alton Wade, geologist of Miami University; Dr. Thomas Poulter, physicist of the Armour Institute of Technology; Richard Black, engineer and surveyor of the Department of the Interior; and Paul Siple, Boy Scout member of the last Byrd Expedition.

**Ellsworth Expedition.**—Lincoln Ellsworth's fourth Antarctic Expedition sailed from Capetown Oct. 29, 1938 on the *Wyatt Earp* with two airplanes on board. He planned to explore and map from the air the section of East Antarctica known as the Enderby Quadrant. The Antarctic continent was reached Jan. 2, 1939 at 69°10'S, 76°31'E, and on Jan. 11, Ellsworth and his pilot made the first flight going southward on the 79th meridian at an elevation of 12,000 feet to about 72° S, a distance of 210

miles from the ship. This was the only exploring flight made as on Jan. 14 the chief engineer was seriously injured and it became necessary for the ship to return immediately to Australia.

#### NORTH AMERICA

**Arnold Arboretum Expedition.**—The Arnold Arboretum expedition of 1939 to the Mackenzie basin of north-western Canada returned to Boston on Sept. 28. It left for the field on May 20 and arrived on June 9 at Fort Simpson on the Mackenzie River. On June 16 a chartered airplane was used for the journey to Brintnell Lake, approximately 200 miles west of Fort Simpson. The party remained there until Aug. 20 when it returned to Fort Simpson by plane. Approximately 1,000 field numbers of vascular plants, 620 of lichens and 60 of fungi, altogether about 15,000 herbarium specimens, were collected, mainly at Brintnell Lake and in the vicinity of Fort Simpson. The chief objectives of the trip were collections and notes on local vegetation in the Mackenzie Mountains of the South Nahanni River region, in which Brintnell Lake is situated. The 1939 expedition was supported by the Arnold Arboretum and by liberal grants from the Milton Fund of Harvard University, the American Academy of Arts and Sciences, and the National Academy of Science. The National Museum of Canada contributed substantially by the loan of field equipment. The party consisted of Dr. and Mrs. Hugh M. Raup, their two sons, and James Soper of Hamilton, Ontario.

**William Beebe.**—The Thirty-ninth Expedition of the Department of Tropical Research of the New York Zoological Society occupied two months of 1939 and was spent at the laboratory of the Society, Nonsuch, Bermuda. The expedition was under the directorship of Dr. William Beebe. Members of the staff of the Department included John Tee-Van, Jocelyn Crane, Phil Crouch and Harriet Bennett. The first object was to study the eggs of fishes, to hatch them, rear the larvae and connect

these with the known adult species. Up to the present, not one complete life history has been worked out of the 350 odd Bermuda forms. The second object was to carry on similar researches with crabs, rearing the zoea to megalops to adults. The exigencies of war limited work at sea toward the end of the expedition but a thorough beginning was made in both phases of study.

**University of Minnesota to Richmond Gulf (Province of Quebec, Canada)** left Senneterre, P. Q. June 25. The objectives of the expedition are primarily botanical. The great variety of habitats make the region a promising one for a study of local factors affecting the distribution of plants in a region apparently glaciated recently. Associated problems such as geochronology and tree ring chronology will also be studied. The region being a zone transitional to the barren grounds makes tree-line studies also possible. The personnel consists of Ernst C. Abbe, assistant professor in the department of botany of the University of Minnesota, organizer of the expedition; Mrs. Lucy B. Abbe and John Marr, assistant in the department of botany. The expedition is supported by grants in aid of research from the Graduate School of the University of Minnesota, the Bache Fund of the National Academy of Sciences, the American Academy of Arts and Sciences, the American Philosophical Society (Penrose Fund), the Smithsonian Institution and the Minnesota Academy of Sciences.

**Botanical Expeditions to Guatemala.**—This expedition was sponsored by Sewell Avery and conducted by Paul C. Standley, curator of the Herbarium of the Field Museum. Selected localities in each type of region (volcanoes, alpine meadows, higher mountain slopes, rain forests, deserts, etc.) found in Guatemala were studied and a comprehensive collection of the flora of the country and data for scientific publication were obtained. A second expedition conducted by Dr. Julian A. Steyermark, assistant curator of the Herbarium of the Field Museum, operated in the Oriente area in the departments of Chiquimula,

Jutiapa, and Jalapa, the desert area around Zacapa, and the Sierra Madre region of western Guatemala. The object was collection of flora and data, supplementing the work of the Sewell Avery Botanical Expedition.

**Dr. Horace G. Richards**, research associate of the National Academy of Sciences, collected and studied fossils and recent land shells in the Lesser Antilles and on the coast of Venezuela. The work was sponsored jointly by the Academy and the Geological Society of America. He was accompanied by his assistant, Allen L. Midyette Jr. of the North Carolina State College.

**Dr. Fritz Haas**, curator of lower invertebrates and Staff Taxidermist Leon L. Walters conducted an expedition for collecting marine animals and other invertebrates along the Atlantic and Gulf Coasts of Florida. Over 6,000 specimens were collected on Sanibel Island. Dr. Haas conducted researches on the relationships between the various types of fauna and the environmental condition. One of the main objectives of the expedition was the collecting of material and data for a proposed habitat exhibit of the loggerhead turtle.

#### SOUTH AMERICA

**The Scarritt Expeditions** of the American Museum of Natural History continue work in Venezuela. A reconnaissance in April, 1939 was made into the higher Venezuelan Andes as far as Merida. In the vicinity of Valera depositions of fossil mammals, probably of late Tertiary age, were exactly located for future work. Even aside from strictly paleontological aspects, these promise to be exceptionally valuable because they are in the youngest beds definitely folded in the Andine orogeny and hence will serve to date the end of this activity. Much of the work was done in cooperation with the Venezuelan government and the collections will be divided between New York and Caracas, where they will form the nucleus of a national collection of fossil vertebrates. Dr. G. Simpson, associate curator, was in

charge. Dr. Simpson also accompanied an official Venezuelan government expedition into a little known region south of the Orinoco River. The Indians in this part of Venezuela had not been studied or described before and Dr. Simpson collected much anthropological data concerning them.

**The Magellanic Expedition of the Field Museum.**—The expedition of the Field Museum of Natural History, sponsored by Stanley Field, president of the museum, which will largely retrace in the farthest reaches of South America the steps of the early Spanish explorer Magellan for which it is named, sailed from New York for Lima, Peru during the first week in July. Those sailing included Karl P. Schmidt, curator of amphibians and reptiles; his son, John Schmidt, field assistant; and Colin C. Sanborn, curator of mammals. Dr. Wilfred H. Osgood, chief of the department of zoology, expected to join them later. The expedition will attempt to complete the fragmentary knowledge of the fauna of the southern half of South America. All classes of animals will be sought—mammals, birds, reptiles, fishes, insects, marine invertebrates, etc. It is planned to explore the shores of the Straits of Magellan and the Island of Tierra del Fuego to the extreme southern tip of the continent.

**The Zoological Expedition to British Guiana** returned to Chicago in January, 1939. Emmet R. Blake, assistant curator of Birds of the Field Museum, led his party to the region along the Courantyne River, near the boundary of Dutch Guiana, the New River, and tributaries far in the interior to collect specimens of the fauna of this little known region.

#### ASIA

**The Vernay-Cutting Burma Expedition** of the American Museum of Natural History left New York City Nov. 26, 1938 to traverse hitherto unexplored parts of northeastern Burma. Arthur S. Vernay and Suydam Cutting, trustees of the Museum, sponsored and led the expedition, and H. E. Anthony accompanied it as



mammalogist, F. K. Ward as botanist, and J. K. Stanford as ornithologist. The expedition was in the field until May. Besides the barking deer, they collected specimens of the giant panda and the takin, which is a small but formidable buffalo, and also other species of mammals, birds, fishes, insects and plants. All botanical material taken will be divided between the New York Botanical Garden and the Kew Gardens, England.

**The Legendre Iran Expedition** of the American Museum of Natural History, sponsored by Mr. and Mrs. Sidney Legendre and accompanied by Assistant Curator George Goodwin, organized for general mammal collecting in the Elburz Mountains in northern Iran (Persia), returned to New York during February, 1939, after being in the field since August, 1938.

#### AFRICA

**The Vernay-Kaffrarian Expedition** of the American Museum of Natural History returned from northern Rhodesia early in 1939 with a large collection of mammals. T. Donald Carter represented the American museum and Guy C. Shortridge the Kaffrarian museum.

**Cameroons.**—George H. H. Tate, assistant curator, accompanied by Robert W. Kane of the department of preparation, are in the Cameroons collecting specimens and accessories for the chimpanzee and mandrill groups of the Akeley African Hall. Already six chimpanzee specimens have been received at the Museum.

#### AUSTRALASIA

**The Michael Lerner Australia-New Zealand Expedition** of the American Museum of Natural History left New York in December, 1938 and returned near the end of May, 1939. The chief objectives of the expedition were briefly as follows: to secure motion and color pictures of living and freshly caught marlins and other big game fishes of New Zealand and Australia; to secure casts and well-preserved skins and skeletons of the marlins and make sharks; and to secure representative collections of

small salt water fishes of New Zealand, Australia and parts of the Dutch East Indies. Field Laboratories were set up at Mayor Island and in the Bay of Islands, New Zealand, and at Bermagui, New South Wales.

Mr. and Mrs. Lerner accompanied by several other members of the expedition travelled extensively in North Island, New Zealand, and secured much excellent motion picture material illustrating the Maoris and their ways of life, the geysers and thermal springs, and on another rapid journey across Australia to Bali, Dutch East Indies, they secured many thousands of feet of motion pictures illustrating Balinese dances and customs, together with an extensive collection of Balinese fishes.

Mr. Raven, associate curator of comparative anatomy, motored through New South Wales, Victoria, and Queensland, collecting material and accessories for groups illustrating the mammals of Australia. He also secured still and motion film illustrating types of environment and the living animals.

Dr. W. K. Gregory, curator of the Department of Fishes, traveled extensively in North and South Islands, New Zealand, and in New South Wales, Victoria, South Australia and Queensland, studying especially the geology and peoples. He also led a brief expedition to the southern end of the Great Barrier Reef, off Queensland, Australia, for material to illustrate the fish life in the coral lagoons of Heron Island.

Dr. Margaret Mead, assistant curator of Ethnology, American Museum of Natural History, has completed three years of ethnological field work in Bali and New Guinea. Dr. Mead spent two years in Bali—March, 1936, to March, 1938—and for a year lived in a mountain village making special studies of the language, ritual dances, child behavior, craftsmen's clubs, carving, painting and theatricals. Dr. Mead lived among the Iatmul people of the Sepik River, New Guinea, for more than seven months. She then returned to Bali for a month for a final check



of a special group of babies she had under observation during her earlier visit.

**The Archbold-New Guinea Expedition** of the American Museum of Natural History returned to New York, July 1, 1939, from an expedition of over a year's duration on a biological exploration of Netherland New Guinea. The scientific party, led by Dr. Austin L. Rand, research associate in the Department of Ornithology, with L. J. Brass as botanist, and William B. Richardson as mammalogist, several Netherland scientists under the leadership of Dr. L. J. Toxopeus, and the necessary military and native helpers, sailed from Batavia, Java for Hollandia where the home camp for the expedition was set up. Richard Archbold, research associate in the Department of Mammalogy and leader of the expedition, with his crew, took off from San Diego, June 4, 1938 in the expedition airplane, the *Guba*. Flying from San Diego to Honolulu, to Wake Island, they reached Hollandia June 10. Thereafter for more than a year the *Guba* transported supplies to various scientific ground parties from the base camp in Hollandia to the treacherous, mountainous region in the interior, where the scientists were collecting birds, mammals, reptiles and botanical specimens. On a 16,000-foot ascent of Mt. Wilhelmina, Mr. Archbold discovered a bird hitherto unknown to science. About 5,000 specimens of birds, some extremely rare, and 3,500 specimens of mammals were obtained in addition to photographs and some valuable anthropological data. The return flight, westward from Australia and Java to Africa, across the Atlantic to the Virgin Islands to New York included a survey over the Indian Ocean for the Australian Government.

**Henry G. Lapham Fijian Expedition.**—On June 27, a party of Bishop Museum scientists departed from Honolulu aboard the *S.S. Monterey* for Suva, Fiji to collect mollusks and insects for the museum. The duration of the trip was three months. During the course of the expedition collections were made in the follow-

ing areas: Ovalau island; Viti Levu, the largest island of Fiji, upon which exploration was done in the Rewa, Serua, and Tholo north districts; and in Lau Province, or the eastern Fijian islands, where Munia, Vanua, Mbalavu, Mango, Lakemba, Oneata, Naiau and Moala islands were visited. Approximately 60 islands were seen, and notes were taken on the appearance and, where they were viewed closely enough, the extent of the forests upon them. The expedition was principally one of reconnaissance. The staff returned from the field Sept. 28 with outstanding success and comprehensive collections. It is estimated that the entomologist procured approximately 25,000 specimens. The number of land shells taken has not yet been ascertained, but a splendid cross section of the fauna was obtained by concentrated work. The Museum's collections of Fijian land shells and insects is now second to none in numbers and comprehensiveness.

**George Vanderbilt Sumatran Expedition.**—Mr. and Mrs. George Vanderbilt, leaders; S. Dillon Ripley, bird collection; Frederick Ulmer, mammal collector, had as objective the collection of birds, mammals, fish and insects of inland Sumatra. The expedition was sponsored by the Academy of Natural Sciences of Philadelphia.

#### AMERICAN PACIFIC COAST

The *E. W. Scripps*, the research vessel of the Scripps Institution of Oceanography of the University of California, sailed from San Diego early in August for a study of ocean currents and undersea strata from San Diego to Santa Barbara. Samples of undersea strata will be taken about 30 miles off shore. Dr. Roger Revelle, member of the Institution, is in charge of the cruise. Dr. R. T. Young, physicist of the Worcester Polytechnic Institute, will make a special study of the transmission of light in sea water. The *E. W. Scripps* returned recently after a cruise of 1,200 miles of the Pacific from the Oregon border to Cedros Islands in Mexico. The cruise, which lasted two

## OCEANOGRAPHY

months, was made in cooperation with the Federal Bureau of Fisheries, which was interested in studying the distribution of sardine eggs off the

California coast. General hydrographic conditions were observed at a number of stations from just off shore to as far as 360 miles at sea.

## OCEANOGRAPHY

BY PAUL C. WHITNEY

UNITED STATES COAST AND GEODETIC SURVEY

### ATLANTIC COAST

**Ice Observations and Patrol Service.**—In connection with the International Service of Ice Observation and Ice Patrol in the North Atlantic Ocean by the United States Coast Guard, 11 sea surface isothermal charts of the region of the Grand Banks of Newfoundland were prepared from data collected on an equal number of cruises of about two weeks each by the Coast Guard cutters. These charts cover the period from March 9 to Aug. 23, when the Ice Patrol was discontinued for the season.

During April, May, and June dynamic topographic charts of the Grand Banks region were prepared, and four current surveys were made. The resulting charts were referred to the 1,000 decibar surface, although at most of the oceanographic stations the temperature and salinity measurements extended to a depth of about 1,400 meters where the depth of water permitted. In this work 201 oceanographic stations were occupied. Between July 10 and July 15, 25 additional oceanographic stations were occupied from the surface to as near bottom as was practicable on an abbreviated post-season cruise in the Labrador Sea. The stations on this cruise were disposed in the form of a section from South Wolf Island, Labrador to Cape Farewell, Greenland. Incidental data collected both during the season and post-season cruises consisted of barograms and seawater surface thermograms.

**Tide Observations and Hydrographic Surveys.**—Along the coast from Maine to Florida 26 primary tide stations were maintained in operation by the Coast and Geodetic

Survey for the purpose of hydrographic control, tidal research, and determination of changes in sea level. Contributions by the Coast and Geodetic Survey to knowledge of the ocean bottom included over 18,000 miles of sounding lines off the coast of Long Island and on Nantucket Shoals, during the course of which some 200,000 soundings were obtained. Surveys are now in progress off the coast of South Carolina. Detailed hydrographic surveys were made of inshore areas in Buzzards Bay, Massachusetts, and in the St. Johns River and Key West areas in Florida. A comprehensive wire drag survey of shoals along the Atlantic coast was continued.

The Hydrographic Office of the United States Navy conducted a hydrographic survey of the north coast of Venezuela and off-lying islands from Guarapotura Point to the mouth of the Unare River, covering a total area of 8,600 nautical square miles. This survey is being extended westward to Cape San Roman, Paraguana Peninsula. The entire survey will be controlled by astronomical determinations at 12 locations in the area. A bathymetric chart of the Caribbean Sea was compiled and published.

The Woods Hole Oceanographic Institution continued the investigation of gradual changes in the transport of the Gulf Stream during 1939. On six occasions a closely spaced line of temperature and salinity stations was occupied in the Montauk Point-Bermuda section. It has been found that the variations in the strength of the current are reflected in the tide gage records from points further south. Some of these records were from stations established especially

for this investigation cooperative with the U. S. Coast and Geodetic Survey.

In September the first of a series of surveys of Georges Banks was completed. It is hoped that this work will eventually lead to a better understanding of the physical factors which control the productivity of marine life in the area.

The outstanding instrumental development of the year was the bathythermograph and multiple water bottle of Spilhaus'. It has been found possible to use the former instrument from the *Atlantis* while going at full speed and a station interval as close as one mile can be achieved. Several long sections across the Gulf Stream have been made in this manner. They indicate that eddies with a diameter of from four to six miles are characteristic of the turbulence near the surface (down to 150 m) north of the Gulf Stream.

#### PACIFIC OCEAN

**Hydrographic Surveys.**—The comprehensive wire drag survey of the navigation lanes along the California coast was continued, many uncharted rocks being located. A resurvey of Willapa Bay was accomplished and a revision survey of Grays Harbor was started. Detailed surveys of tributaries to the Northern Puget Sound area were made, and a fall and winter hydrographic project was begun in the San Juan Islands. The original survey of Glacier Bay, Alaska, was continued. Hydrography was continued from Unimak Pass along the Alaskan Peninsula. Extensive topographic and hydrographic surveys along the Aleutian Islands were continued westward to Yunaska Island. Considerable hydrography was accomplished in the Bering Sea off Unimak Island.

Cruises by United States naval vessels across the Atlantic and Pacific Oceans and in the Caribbean Sea have yielded approximately 150,000 sonic soundings over previously unsounded areas. An exhaustive search by the United States Navy of the area bounded by latitudes 21° 20' North and longitudes 151° 10' East and 152° 00' East has proven conclusively that

the Los Jardines or Scarborough Islands do not exist. The investigation revealed the existence of a submarine peak with a least depth of 1,120 fathoms with an average surrounding depth of 3,000 fathoms in this area.

A bathymetric chart of the Pacific Ocean was compiled and published during the year. The majority of the sounding data utilized in the construction of this chart and the bathymetric chart of the Caribbean Sea have been obtained by United States naval vessels.

The Federal projects sponsored by the Hydrographic Office completed analyzation of ocean current and sea temperature data covering the Pacific Ocean.

**Tide Observations.**—Fourteen primary tide stations were maintained in continuous operation by the Coast and Geodetic Survey from California to Alaska and one in Honolulu. In addition to furnishing the necessary data for hydrographic surveys, the results of these observations are of basic importance in tidal research and in the determination of relative changes in elevation of land and sea.

The *E. W. Scripps*, the research vessel of the Scripps Institution of Oceanography, completed two cruises. During the first cruise 53 oceanographic stations were occupied in the Gulf of California and about 2,500 soundings by sonic depth-finder were made. At these stations the temperature was observed at various depths between the surface and the bottom, water samples were collected at the same depths for determination of salinity and oxygen content, net hauls for microscopic organisms were made, and samples of the bottom sediments were secured. The second cruise was made in cooperation with the Federal Bureau of Fisheries, covering an area off the west coast of America between 40° and 25° North, and to a distance of 200 to 350 miles from the coast. Ninety oceanographic stations were occupied at which special net hauls for studying the distribution of sardine eggs were made.

**Marine Studies.**—In the laboratories at La Jolla, studies of the data

## PERIODICAL PUBLICATIONS

from the ocean, theoretical studies in physical oceanography, and experimental work in marine biology have been conducted, following the same lines as in previous years.

During the summer the Oceanographic Laboratories of the University of Washington ran a number of sections across the continental shelf off the coasts of Washington, Oregon, and California into the oceanic area. Samples were taken at various depths at all the stations for temperature, salinity, dissolved oxygen, and nutrient salts in the sections established.

### GULF OF MEXICO

Extensive basic offshore surveys were continued by the Coast and Geodetic Survey along the Texas coast. The area extended out to include the 1,000-fathom curve and beyond. Similar work was begun east of the Mississippi Delta. A detailed hydrographic survey of the eastern part of Choctawhatchee Bay, Fla., was completed. Five primary tide stations were in operation by the Coast and Geodetic Survey.

### OCEAN BOTTOM SURVEYS

The comprehensive offshore surveys both on the Atlantic and Pacific coasts of the United States continued to be of great interest to geologists. The submerged patterns found have stimulated new thought directly influencing previous concepts of geology relating to ocean basins about which so little has been known heretofore. The recent researches and interpretations of the

soundings on the continental shelf and slope have been compiled and published by the Geological Society of America in cooperation with the Coast and Geodetic Survey.

### THE AMERICAN GEOPHYSICAL UNION

The annual meeting was held in Washington, D.C. April 26-29, 1939. The papers given for the Section of Oceanography presented a review of the activities of the year of the various Federal and educational institutions engaged in oceanographic work. In addition, there was a paper on the influence of vertical and lateral turbulence on the characteristics of the waters at mid-depths. These papers appear in full in Part 3 of the *Transactions* of the American Geophysical Union, published by the National Research Council in August 1939.

### INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS

The Union held its Seventh Triennial General Assembly in Washington Sept. 4-15, 1939. Notwithstanding the disturbed European political situation, there were many foreign delegates and the Assembly was highly successful. Many interesting papers were given before the Section of Physical Oceanography by both American and foreign investigators. These papers will be published, and interested persons should communicate with Dr. J. Proudman, general secretary, Association d'Océanographie Physique, The University, Liverpool, 3, England.

## PERIODICAL PUBLICATIONS

*American Mineralogist*

Menasha, Wis.

*Economic Geography*

Clark University Press, Worcester, Mass.

*Economic Geology*

University of Illinois, Urbana, Ill.

*Geographical Review*

American Geographical Society, Broadway and 156th Street, New York City.

*Journal of Geography*

3333 Elston Ave., Chicago.

*Journal of Geology*

5750 Ellis Ave., Chicago.

*Mining and Metallurgy*

29 West 39th Street, New York City.

*National Geographic Magazine*

National Geographic Society, Washington, D.C.

*Nature*

295 Madison Ave., New York City.



## XX. GEOPHYSICAL SCIENCES

### *Petroleum World*

Bendix Building, Los Angeles, Calif.  
*Travel*  
116 East 16th Street, New York  
City.

### *Travel America Guide*

222 East 42nd Street, New York  
City.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN ASSN. OF PETROLEUM GEOLOGISTS, Box 1852, Tulsa, Okla.

AMERICAN GEOGRAPHICAL SOCIETY, Broadway at 156th St., New York City.

AMERICAN METEOROLOGICAL SOCIETY, Blue Hill Observatory, Milton, Mass.

APPALACHIAN MOUNTAIN CLUB, 5 Joy St., Boston, Mass.

ASSOCIATION OF AMERICAN GEOGRA-

PHERS, University of Pennsylvania, Philadelphia, Pa.

EXPLORERS CLUB, 10 W. 72nd St., New York City.

GEOLOGICAL SOCIETY OF AMERICA, 419 W. 117th St., New York City.

NATIONAL GEOGRAPHIC SOCIETY, Washington, D.C.

SEISMOLOGICAL SOCIETY OF AMERICA, University of California, Berkeley, Calif.

# DIVISION XXI

## CHEMISTRY AND PHYSICS

### PHYSICAL CHEMISTRY

By HUGH S. TAYLOR

PROFESSOR, PRINCETON UNIVERSITY

---

#### ISOTOPE SEPARATION

Four important fields of physical chemical research where there is at present much activity and in which the advances recorded are definite and evident have been selected for consideration this year.

The discovery of heavy hydrogen by Urey gave great impetus to the study of other methods of isotope separation, since two separated isotopes of the same element enlarge considerably the scope of investigations as to the role of the element in various chemical changes. This has proved to be abundantly true in the field of biological processes. A chemical method of separating nitrogen isotopes developed by Urey and reported here two years ago and now made to yield 73%  $N^{15}$  (Urey and Thode, *J. Chem. Phys.*, 7, 34, 1939) has been instrumental in studies of protein metabolism and in exchange reactions at iron and tungsten catalyst surfaces. Now Urey and his collaborators are able to separate, by the chemical method, the carbon isotopes  $C^{12}$  and  $C^{13}$  in fair quantities and this means a very broad program of research in both plant and animal chemistry. The oxygen isotope has been used to study exchange reactions in amino-acids and proteins and it has been found that only the carboxyl oxygen exchanges. These results confirm accepted views with respect to the number of dicarboxylic acids present, for example, in pepsin.

Radioactive isotopes are being similarly used as tracer atoms in chemical reactions. Their great utility has been set forth by Hevesy in a recent lecture to the London Chemical Society.

A new technique of isotope separation has recently been developed of great promise for the general solution of the separation of gaseous and liquid isotopic materials and with possible application to the separation of gaseous mixtures in industry. The method, developed by Clusius in Germany (*Naturwissenschaften*, 26, 546, 1938) makes use of the well-known but small separation of gas molecules under the influence of a temperature gradient, due to thermal diffusion, but multiplies the effect by means of a thermal syphoning process. This is achieved in tall vertical tubes in the axis of which is a hot surface, the outside surface being kept cool. The original and very efficient form consisted of a heated wire placed concentrically in a cylindrical tube with temperature gradients across the tube of 300-600° C. Clusius and Dickel have in this way isolated hydrogen chloride gases in which the chlorines are respectively pure  $Cl^{35}$  and pure  $Cl^{37}$ . The lighter material concentrates at the top of the tube, the heavier at the bottom. The separation of the carbon isotopes, also, can thus be achieved. In a 12 metre column, 2 cm. internal diameter, heated axially by a wire, meth-

ane containing 1.1%  $C^{13}H_4$  showed after treatment 0.1% at the top of the column and 2.0% of the heavy isotope at the bottom. The theory of the process has been developed in this country by Furry, Jones and Onsager (*Phys. Rev.*, 55, 1083, 1939) and by Waldmann (*Naturwissenschaften*, 27, 230, 1939) in Germany. The superiority over simple thermal diffusion is measured by the ratio of the height of the column to the distance between hot and cold surfaces. In the 12 metre column cited above this is a 1200 fold multiplication of the simple thermal effect. With a series of tubes, considerable separations can be achieved, in flow systems, by a procedure reminiscent of fractional distillation. It has been shown that liquid mixtures as well as gases can be so separated.

#### HYDROCARBONS

An intense activity obtains in the field of hydrocarbons from the physico-chemical standpoint. The problems under study have major theoretical importance and also technical significance.

One group of researches is concerned with the thermochemistry of hydrocarbons. Two methods are in use. One determines exact heats of combustion (Rossini, U.S. Bureau of Standards); the other, a new technique developed by Kistiakowsky of Harvard measures heats of hydrogenation of unsaturated molecules (Conn, Kistiakowsky and Smith, *J. Am. Chem. Soc.*, 61, 1868, 1939). The data converge and permit an approach to the problem of the strengths of individual bonds in the molecules and the influence of configuration on these bond strengths. A second group of researches, largely sponsored by Pauling in Pasadena and his students in various research centres here and abroad, studies the architecture of the molecules, the interatomic distances, by measurements of the electron diffractions of the vapors. A third group of researches examines the problem less directly by studies of the reactivities of individual bonds in the molecules as, for ex-

ample, the reactivities of primary, secondary and tertiary C-H bonds in saturated hydrocarbons and the influence of unsaturation on such bond strengths. The whole subject is in a dynamic state at the present moment. It can be stated, however, that an approach to a quantitative definition of the factors involved is in sight. Formerly it was usual to assume as a first approximation that the bond strengths in different hydrocarbons were constant. The second approximation is revealing definite and predictable variations which ultimately will be related with the empirical knowledge of the organic chemist.

In the hydrocarbon field also, the physical chemist is actively engaged in applying catalytic agents to the problem of hydrocarbon transformations. Catalytic cracking of complex to simpler molecules is already technically developed. The use of catalysts for polymerisation of unsaturated compounds to form specialised products of high fuel values is also achieved. The chemical engineer is in process of adapting to industry new catalytic processes, already developed in the laboratory, to isomerise, that is to say re-form, hydrocarbon molecules. Here again the objective is better fuels. It has been found that relatively poor hydrocarbons can be catalytically converted into molecules having the same atomic constituents but with an architecture associated with better combustion characteristics. The most significant development in this field is the demonstration that "open chain" or aliphatic hydrocarbons can be converted to "ring" or aromatic hydrocarbons by catalytic removal of hydrogen and cyclisation. By such processes, in addition to new fuels, there are new source materials for benzene and toluene. These several problems have been twice reviewed during the year, at the Baltimore meeting of the American Chemical Society in March and at the Faraday Society in London in April (see *Trans. Faraday Soc.*, August, 1939).

PHYSICAL CHEMISTRY  
OF PROTEINS

A symposium of the Royal Society of London devoted to proteins (*Proc. Roy. Soc.*, 170 A, 40, 1939) summarises the most recent developments in this field. Improvements by Tiselius in the cataphoretic study of proteins, the migration under the influence of an electric field, has shown the complexity of several proteins. A good review of this field and its applications has been given recently by Longworth and MacInnes (*Chem. Rev.*, 24, 271, 1939). Papers by Pauling and Niemann (*J. Am. Chem. Soc.*, 61, 1860, 1939) and by Bernal (*Nature*, 143, 74, 1939) and others on the x-ray examination of proteins are devoted to opposition to the Wrinch cyclol hypothesis of protein structure according to which certain proteins, for example the globulins, are regarded as possessing a closed surface of a particular configurational structure, the cyclol. Langmuir and Wrinch have marshalled the evidence in favor of this latter while the opposition support folded polypeptide chains as the structural form. Other evidence in favor of this view has been described by Astbury (*Science Progress*, 34, 1, 1939). Bernal supports the view with certain protein materials that the combination of the units is due to side bonds, for example, the S-S bond (*Nature*, 143, 663, 1939), the rupture of which, in wool, by photochemical action has been studied by Harris (*Textile Research*, 10, 17, 1939). The shape of protein molecules has been discussed by Neurath (*J. Am. Chem. Soc.*, 61, 1841, 1939) from data obtained in the Svedberg ultracentrifuge and from the diffusion data. He finds that most proteins are very unsymmetrical in shape (fibrous) and, on dissociation, cleavage occurs only in directions parallel to the major and minor molecular axes.

Following up the earlier work of Görter in Holland and Langmuir in this country further attention has been devoted to surface films of proteins. They have been built up by Alexander and Teorrel (*Trans. Faraday Soc.*, 35, 727, 1200, 1939) at ben-

zene-water interfaces. Rideal, who has spread them from the solid state on water surfaces, has reviewed the whole problem of the reactions of surface films in its application to biological phenomena in his presidential address to the chemical section of the British Association in September, 1939. Langmuir showed a year or so ago that the viscosity of surface films was a good index of whether the film was solid or liquid (see *Chem. Rec.*, 24, 189, 1939) and that the viscosity of a liquid sterol film could be increased many thousand fold by introduction of digitonin (a precipitating agent for sterols) into the water phase underneath the film. Harkins has extended the study (*J. Am. Chem. Soc.*, 61, 1188, 1939) to the temperature coefficient of viscosity, a subject analysed theoretically by Eyring and Moore (*J. Chem. Phys.*, 6, 391, 1938).

## THE CHEMICAL BOND

Physical chemists generally welcome the publication of the Baker Lectures at Cornell University by Linus Pauling under the title *The Nature of the Chemical Bond* (Cornell Univ. Press, Ithaca, N.Y., 1939). This gives an authoritative discussion of the manifold problems of molecular and crystal structure and the nature of the bonding in such systems. The ninth chapter is devoted to the hydrogen bond and the many structures into which this bond enters. Among recent findings in this field are the data of Bauer, Beach and Simons (*J. Am. Chem. Soc.*, 61, 19, 1939) and independently of Gunther, Holm and Strunz (*Z. physik. Chem.*, B, 43, 229, 1939) that the hydrogen bond in hydrogen fluoride does not result, as previously suggested, in ring structures of the form (HF)<sub>6</sub> but forms a continuous zig-zag chain structure (HF)<sub>n</sub>. Electron diffraction on the vapor and Debye-Scherrer x-ray measurements on the crystals are mutually confirmatory on this point.

The infra-red absorption spectra of carboxylic acids such as formic and acetic acids containing light and heavy hydrogen confirm the presence



of double molecules in the vapor phase due to a hydrogen bonding between molecules (Herman and Hofstadter, *J. Chem. Phys.*, **6**, 534, 1938). Wall has shown the same to be true of benzoic acids containing light and heavy hydrogen in solution in carbon tetra-chloride (Buswell, Rodebush and Roy, *J. Am. Chem. Soc.*, **60**, 2239, 1938). In the same solvent Wall and Claussen (*J. Am. Chem. Soc.*, **61**, 2679, 1939) have shown that ethoxy

alcohols associate through hydrogen bonds with some evidence of the same in the less soluble glycols. Stable rings form with six or seven atoms in the ring, including the hydrogen. Pauling and Niemann in the paper already cited ascribe to the hydrogen bond and similar interatomic interactions the main forces holding the protein molecules in the definite configurations demanded by their physico-chemical properties.

## PHYSICS

By THOMAS H. OSGOOD

PROFESSOR, THE UNIVERSITY OF TOLEDO

### FISSION OF URANIUM

Undoubtedly the most important discovery of 1939 was the fission of the heavy nuclei, uranium, proto-actinium, and thorium, which occurs when they are bombarded with neutrons. One of the commonest processes which takes place when a neutron interacts with a nucleus is the temporary addition of the neutron to the nucleus, and the emission of radiation. The new nucleus is unstable and decays with the emission of a negative electron. This process increases the positive nuclear charge by one unit, without appreciably diminishing the mass, so that the final nuclear product must have the chemical properties of an element one step higher in the periodic table. So well established were processes of this type it was practically taken for granted that the interaction of neutrons with nuclei, followed *only* by the emission of beta particles, would transmute those nuclei into other species one unit higher in the atomic series.

Several years ago, during their survey of the effects of neutrons, Fermi and his colleagues bombarded uranium and observed the subsequent emission of beta rays. It was natural to conclude that the uranium had been transformed into an element of atomic number 93. Thus were born the "transuranic" elements. It happened that the beta rays emitted dur-

ing the formation of this and other "transuranic" elements were divisible into many classes, each characterized by its own decay constant. Unfortunately the half lives were all so short that conclusive evidence as to the nature of the products, such as only chemical separation could give, was well nigh impossible to obtain. Then in 1937 Curie and Savitch discovered a product of period 3.5 hours, and proceeded forthwith to separate it by chemical means. It turned out to be a substance with the chemical properties of lanthanum, although its mode of production entitled it to be classed as a transuranic element. This was the beginning of the end of these mythical elements, for soon other products were discovered which had the chemical properties of barium.

Early in 1939, Meitner and Frisch (*Nature*, **143**, 239) pointed out that most of the inconsistencies among the observations dealing with the nuclear reactions of uranium could be eliminated by supposing that the nucleus formed after capture of a neutron split into two parts of comparable masses. In arguing their case they placed great reliance on the liquid-drop model of the nucleus developed by Bohr, and calculated that the total kinetic energy of the two receding fragments from the uranium reaction should be about 200 Mev. They remarked also that, under neutron

bombardment, thorium was already known to give rise to products, some of whose decay periods were apparently the same as those of the products resulting from the fission of uranium. It was reasonable, then, to suppose that the thorium reaction was a fission process like that of uranium.

Since the masses of atoms in the atomic sequence increase in general faster than twice the nuclear charge, a very heavy nucleus, if split, will divide into two fragments which include more neutrons in proportion to protons than are found in normal atoms of about the same masses as the two fragments. After the splitting of uranium, the question naturally arises as to the ultimate fate of these excess neutrons. Some, at least, might be expected to be emitted during the fission process, others might be given out later, as the radioactive fragments decay. Experiments designed to count approximately the numbers of neutrons emitted have been made by Szilard and Zinn (*Phys. Rev.*, 55, 799), who find that about two neutrons per fission are given out "instantaneously." In addition there is a delayed emission of neutrons with periods of about 12 seconds and 45 seconds. The emission of these neutrons indicates that the first products of fission are probably nuclei in high energy states and that these decay to more stable forms which are in many cases still radioactive.

Neutrons, slow or fast, are able to initiate the uranium-splitting reaction, and during its subsequent course more neutrons are emitted with energies apparently in the range which is effective in causing the primary fission. It is interesting, therefore, to speculate upon the possibility of a chain reaction (F. Adler and H. von Halban, *Nature*, 143, 793) going on in a mass of uranium, which might continue with explosive violence once it has been started, but the general opinion seems to be that no dangerous chain reaction can occur unless there is an extraordinarily high concentration of the rare isotope  $U^{235}$ .

Already some aspects of this new

disintegration process have been investigated in some detail. For example, Booth, Dunning and Slack (*Phys. Rev.*, 55, 981) have shown that the fragments fall into two distinct energy groups. This was done by absorbing individual recoiling particles completely in an ionization chamber and measuring the ionization produced. The groups had maximum energies of about 75 and 100 Mev, from which the authors calculate that the ratio of the masses of the two fragments would be about 96/140. However, the total energy measured falls short of that predicted by Meitner and Frisch by some 25 Mev, which may well be taken up by secondary processes such as the excitation of the nuclear fragments; or else the true energy of recoil may be greater than that which is measured on account of the difficulty of collecting all the ions from tracks of such great ionization density as these heavy nuclei form. The ranges of the particles are quoted by Booth, Dunning, and Slack (*Phys. Rev.*, 55, 982) as 1.5 cm. and 2.2 cm., measured in air. It would be wrong to make the assumption that these two groups are homogeneous, that is, that uranium always divides into exactly the same two parts, for Ba, Xe, Kr, I, Te, La, and other elements have been identified among the products of disintegration; yet some authorities seem to think that the primary fission process is comparatively simple and that the apparent complexity of the products is brought about by their subsequent behavior.

#### STELLAR ENERGY

The problem of the origin of stellar energy is restricted at the outset by several well-tested generalizations which have been found from astrophysical observations, and by theories which are based upon them. Any acceptable solution must account for the evolution of a star according to the scheme of the Russell-Herzsprung diagram; it must account for Eddington's mass-luminosity relation; it should show why some stars follow the main sequence, and some are giants; it should offer some plausible

reason for the occurrence of white dwarfs; it should be consistent with the known abundance of the different chemical elements in stars; and it should explain why stars have their masses grouped in so small a range. While it is too much to hope for a thoroughly satisfactory theory at first, considerable progress has been reported in papers by Bethe (*Phys. Rev.*, 55, 434), and by Gamow and Teller (*Phys. Rev.*, 55, 791).

Normally we think of nuclear reactions as occurring when a fast-flying particle interacts with a nucleus. The terrestrial difficulty of accelerating particles to the requisite speeds is absent in the interior of stars, where the thermal velocities (due to a "temperature" of the order of ten million degrees C.) are great enough for the purpose. Bethe shows that "the most important source of energy in ordinary stars is the reactions of carbon and nitrogen with protons." In essence these reactions amount to the creation of helium out of protons through the agency of intermediate unstable atoms  $C^{12}$ ,  $C^{13}$ ,  $N^{14}$ , and  $N^{15}$ . For each intermediate atom which is transmuted, another identical one appears later, so that the stock of atoms of these elements remains constant.

One of the essential points of the theory is the exclusion of reactions involving protons with atoms either heavier or lighter than carbon and nitrogen. Such reactions, of course, could provide the requisite energy, but at the expense of a degradation of the atoms downwards in the periodic table, so that the proportions of most elements would suffer tremendous changes as the star proceeded on its evolutionary course. Since, in all cases, helium is being formed at the expense of hydrogen, it is to be expected that old stars contain a much smaller percentage of hydrogen than young ones. This is well borne out by spectroscopic observations.

#### COSMIC RAYS

While the soft component of cosmic rays is fairly satisfactorily explained as consisting of electrons pro-

duced in showers, the progress of the year's research concerning the penetrating component seems merely to have increased the uncertainty regarding its source, and its behavior in interacting with matter. In the first place it has been known for some time that the apparent mass absorption of penetrating cosmic rays is greater in air than in dense materials. This curious fact receives a simple explanation if the meson, which is without question an unstable particle, disintegrates and loses its identity in a mean time of about  $2 \times 10^{-6}$  sec. after it is born. Usually it is assumed that the meson disintegrates into a negative electron and a neutrino. It is clear that the time required by a fast moving particle to traverse (say) 10 cm. of lead must be very much less than the time the same particle would take to travel through an equivalent barrier of the atmosphere. Ten cm. of lead are equivalent to something of the order of three km. of air of the lower atmosphere. It would take a particle, even one moving at practically the speed of light, about  $1.7 \times 10^{-6}$  sec. to travel this distance, so that a meson has a good chance of decaying during this time, while the probability would be much greater that it would emerge intact from the ten cm. of lead. Hence the apparent absorption in air must be greater than in a substance such as lead (or even water) for the simple reason that, in the atmosphere, many of the original mesons disappear on the way to the recording device.

On the assumption that mesons are produced by primary cosmic rays after the latter have travelled one tenth of the way through the atmosphere from the top (*i.e.* at 16 km. height, where the barometer reads 7.5 cm. of mercury), Blackett (*Nature*, 142, 992) calculates, with the aid of some meteorological data, that the mean range of mesons before decay is 25 km. This calculation applies to mesons of the energy group which are likely to die at about sea level. For more energetic mesons, such as can penetrate 60 meters of water, the mean range is much larger.

Blackett also suggests that the seasonal variation in cosmic ray intensity may be due to this characteristic behavior of mesons: in winter the atmosphere is colder, and therefore less thick than in summer (for an equivalent atmospheric pressure). The mesons would, therefore, traverse the winter atmosphere in less time before decaying, with the result that more mesons should reach sea level in winter than in summer, and cause greater currents in ionization chambers there.

A summary of the difficulties and an analysis of possible explanations of the penetrating component has very recently been given by Nordheim (*Phys. Rev.*, 56, 502) and by Nordheim and Hebb (*Phys. Rev.*, 56, 494) from whose papers most of the information below is taken. There appears to be no reasonable doubt that mesons are of secondary origin, for if they were originally a component of the primary radiation, practically all of them would decay on their long passage through space on the way to the earth, and there is no process by which the original supply might be reestablished in the absence of fairly dense matter. Those which are found above ground must, therefore, be produced in the earth's atmosphere. The outstanding problem at the moment is to determine the nature of the primaries to which mesons owe their brief existence. The possibility that they may be produced by the soft component is a simple but difficult hypothesis, for it predicts, apparently logically, certain details of the process of absorption and creation which are at variance with observations. Nordheim and Hebb are of the opinion that it would not be "impossible to overcome this difficulty by varying the (assumptions as to the) primary distribution, or introducing numerical factors or the like," but they imply that such a solution of the problem would, at present, be unnecessarily artificial; and suggest that the hypothesis of the soft-component origin of the hard radiation be shelved at least temporarily while other possible avenues are explored.

Nordheim then proceeds to discuss the consequences of assuming that protons or neutral particles are the source of mesons. The proton hypothesis is well supported by Johnson's interpretation of his experiments on the east-west effect, but is undermined in an equally telling fashion by other observations on the geomagnetic effect and on the proportion of slow protons found at sea level. With regard to neutral particles as the primaries which might be responsible for the production of mesons, the most likely hypothesis from a theoretical point of view seems to be that the neutrettos or neutral mesons postulated in 1938 by Arley and Heitler play an important rôle.

Although as yet there appears to be no confirmation of Majumdar and Kothari's (*Nature*, 143, 796) suggestion that the meson breaks up into a proton and a neutron, nevertheless there is a growing body of experimental evidence showing that heavy particles in small numbers are found in cosmic rays. For example, Froman and Stearns (*Phys. Rev.*, 54, 969) have reported experiments which show that non-ionizing particles must occur in showers, and the natural supposition at the present time is that they are neutrons or neutrettos.

#### ATOMIC MASSES

During the last few years the weigher of atoms has been able to attain incredible accuracy in his work, mainly because he is able to measure the mass differences between various atoms in terms of the kinetic energy of disintegration products. This gives him, as it were, an extremely fine adjustment in his weighing, far exceeding that which can be reached in the absolute measurements such as those which determine the electronic constants. In 1939 notable work was done at the University of Chicago by Allison (*Phys. Rev.*, 55, 624) and his colleagues. Among the results the following are important:

$\text{Li}^6$	$= 6.01682 \pm .00011$
$\text{Li}^7$	$= 7.01814 \pm .0009$
$\text{Be}^9$	$= 8.00766 \pm .00015$
$\text{Be}^9$	$= 9.01486 \pm .00013.$



It is interesting to compare these and other masses similarly determined with the masses calculated by Barkas (*Phys. Rev.*, 55, 691) on the basis of an empirical-theoretical formula derived from the theory of the nucleus developed in the last two or three years by Wigner and others. It is not possible yet to carry the comparison much beyond atomic number 40, but an inspection of the table which Barkas gives shows a remarkable agreement. It should be noted, however, that, on account of uncertainty regarding some of the constants occurring in the theory, the calculated values are not unique, though these constants can be chosen arbitrarily to give good accord with experimental results.

### SPECTROSCOPY

The publication of the Massachusetts Institute of Technology Wavelength Tables, compiled under the direction of Professor Harrison, is a landmark in modern spectroscopy. This new book contains over 100,000 entries "giving the wavelength, the intensity in arc, spark or discharge tube, the stage of ionization of the parent atoms when the line has been classified in a term array, and the wavelength authority, for each of the most important known spectrum lines emitted between 10,000 and 2,000 angstroms by atoms in the first two stages of ionization." More than 75,000 of these lines are the results of recent measurements made in the M.I.T. laboratories and have replaced older and less reliable values already in the literature. Such a tremendous undertaking could hardly have been carried through before its results began to be obsolete without a machine which measures the spectrum lines and computes and records their wavelengths and intensities automatically. An instrument which performs these functions and which can be attached to a moving plate comparator, was built in the early years of this decade and described in literature in 1935. It gives a 20-fold increase in speed over the usual manual methods, with an accuracy as great as that which can otherwise

be obtained without resorting to interferometer methods of determining the wavelengths of individual lines.

### NUCLEAR MAGNETIC MOMENTS

An important new experimental technique for the determination of nuclear magnetic moments was described early in 1939 by Rabi, Millman, Kusch and Zacharias (*Phys. Rev.*, 55, 526). The main part of the magnetic moment of an atom is due to the electrons which form part of the normal extranuclear structure. To measure the nuclear moment it is necessary to get rid of the disturbing electronic contribution. Hence the most convenient subjects for observation are atoms in a state with electronic angular momentum equal to zero, or molecules in which the electronic angular momentum of one constituent is approximately balanced by that of the other constituents. It happens that the nuclei  $\text{Li}^6$ ,  $\text{Li}^7$  and  $\text{F}^{19}$  can be investigated in the molecules  $\text{LiCl}$ ,  $\text{LiF}$ ,  $\text{NaF}$  and  $\text{Li}_2$ . The values turn out to be .820, 3.250 and 2.622 in nuclear magnetons. The possible error of these values is given by the authors as about 0.3 per cent, and in view of the fact that the values obtained from the best hyperfine structure calculations differ from the experimental ones by about two per cent, the question is raised whether the accuracy of the assumptions which go into the theoretical calculations is as great as is generally believed. In later papers by the same workers, many more nuclear magnetic moments have been determined, and in general the evidence seems to point to the trustworthiness of the indirect calculations made on the basis of hyperfine structure measurements.

### APPLIED PHYSICS

In this field can be mentioned but a few of the many important contributions. Muskat and Morgan (*J. App. Phys.*, 10, 398) have continued their studies in the lubrication of journal bearings, both theoretically and experimentally, generalizing the early theory of Sommerfeld to include short bearings. A series of

## ORGANIC AND INORGANIC CHEMISTRY

papers from Stanford University (*J. App. Phys.*, 10, 321) deals with the theory and construction of klystron oscillators for producing electromagnetic oscillations at wavelengths below ten cm., with an efficiency greater than hitherto attained. Blodgett (*Phys. Rev.*, 55, 391) has developed the technique of applying thin films to glass surfaces so as to diminish

the reflectivity to less than one per cent. Her work has received wide publicity in the daily press under the description of "invisible" glass. And the development of the cyclotron, a feat of engineering quite as much as of physics, has received just recognition by the award of the Nobel Prize to Prof. E. O. Lawrence of the University of California.

## ORGANIC AND INORGANIC CHEMISTRY

By C. M. SUTER

ASSOCIATE PROFESSOR, NORTHWESTERN UNIVERSITY

### REACTION OF SALT WITH SULFUR TRIOXIDE

It has been known for some time that, up to about 100°C., sodium chloride and sulfur trioxide combine to give a vaguely defined complex molecule whereas at temperatures over 200° a reaction sets in and gaseous products are formed. Salley (American Cyanamid Co.) has investigated the nature of these products and has found that chlorine and sulfur dioxide are formed in equal volumes, leaving a solid residue of sodium pyrosulfate. At present there is no evidence that this reaction is being used commercially but it offers a method for obtaining chlorine from sodium chloride by use of an inexpensive oxidizing agent. There has been interest in this problem recently because the supply of sodium hydroxide, produced as a by-product in the electrolytic process for preparing chlorine, exceeds the demand.

### INDUSTRIAL USES OF SULFAMIC ACID

Although sulfamic acid has been known for many years it is only recently that a practical commercial process for its preparation has been developed. Because of its availability a variety of laboratory and industrial applications have been investigated in recent months. A summary of these has been given by Gordon and Cupery (E. I. du Pont de Nemours and Co.). Sulfamic acid is more effective than urea in removing the

excess nitrous acid present at the completion of diazotization reactions, and successive batches of a dye show greater uniformity when sulfamic acid is used. Salts of sulfamic acid are useful as flameproofing agents for textiles. Many other uses are suggested, some of which will undoubtedly materialize.

### VOLATILE COMPOUND OF ALUMINUM

By treating aluminummethyl with diborane a new compound containing aluminum, boron and hydrogen,  $AlB_2H_2$ , has been obtained. (Schlesinger, Sanderson and Burg, University of Chicago.) This is a volatile liquid which freezes at  $-64.5^\circ$  and boils at  $44^\circ C$ . In the gaseous state it is quite stable but it reacts readily with simple oxygen and nitrogen compounds such as methyl ether, ammonia and trimethylamine, giving mixtures of products so far not identified conclusively. It is apparent from this work that the number of compounds obtained from boron may be greatly extended. These substances have theoretical interest because of the unusual valence bonds frequently present in boron compounds.

### MOLECULAR STRUCTURE OF HYDROGEN FLUORIDE

Hydrogen fluoride exhibits abnormal behavior in the gaseous state, the molecules consisting of aggregates of HF units which decrease in complexity as the temperature is raised.

In 1924 it was shown that these abnormal properties could be accounted for by assuming that simple HF molecules and groups containing six of these were in equilibrium. The electron diffraction method of measurement has now been applied to the gaseous hydrogen fluoride (Bauer, Beach and Simons, Princeton University and Pennsylvania State College), and the results indicate that the hydrogen fluoride molecules exist as zig-zag chains of varying length, the fluorine atoms being held together by hydrogen bonds. It was originally considered that a hexagonal structure was more probable.

#### THE REDISTRIBUTION REACTION

Under the title of this section Calingaert and associates (Ethyl Gasoline Association) have published a series of papers showing that in a variety of reversible organic reactions involving the interchange of groups the amount of each substance present at equilibrium is predictable purely on the basis of probability. The first reaction studied was that of tetraethyllead and triethyllead chloride. Part of the lead atoms in the tetraethyllead were Radium D, a radioactive isotope of lead. After the two compounds had been mixed and kept at room temperature for a day the radioactive lead was equally distributed between the two compounds. When a mixture of tetramethyllead and triethyllead chloride underwent reaction all of the nine possible compounds were found. This type of interchange was then found to occur between compounds such as tetramethyllead and tetraethyllead, tetraethylsilicon and tetra-n-propylsilicon, dimethylmercury and diethylmercury and others when a catalyst such as aluminum chloride or other halide was present. There were no by-products formed such as are usual in organic reactions, and the equilibria were entirely unaffected by change of solvent, catalyst or temperature. The composition of a mixture within experimental error, depended only upon the mole fraction of the various component groups.

#### ORGANIC REACTIONS AND REAGENTS

A new method for replacing the hydrogen atoms in a variety of compounds with chlorine has been discovered. Kharasch and Brown (University of Chicago) have found that, in the presence of a trace of a peroxide, sulfonyl chloride reacts readily with compounds toward which it is otherwise practically inert. For example, the reaction with cyclohexane was complete in 15 minutes in the absence of light. Toluene behaved similarly, yielding benzyl chloride, while the nitrotoluenes do not react. Another peculiarity of the reaction is the inertness of hydrogen in a compound such as tetrachloroethane or chloroform where two or more chlorine atoms are already attached to the carbon atoms. This reaction is undergoing extension to a variety of other organic compounds and will undoubtedly be widely used in halogenations. It is believed to take place through a chain reaction mechanism started by chlorine atoms set free by the peroxide.

The use of anhydrous hydrogen fluoride as a condensing agent received considerable attention during the year. Calcott, Tinker and Weinmayr (E. I. du Pont de Nemours and Co.) have shown that aromatic hydrocarbons, phenols, phenyl ethers,  $\beta$ -naphthalenesulfonic acid and more complex compounds can be alkylated with ease. As the alkylating agents not only olefins but alcohols, ethers, and alkyl halides may be used. Simons and co-workers (Pennsylvania State College), have continued their work in this field. In the reaction of allyl alcohol with benzene it was possible to isolate some allylbenzene as well as 1,2-diphenylpropane. Carboxylic acids also condense with toluene or phenol in the presence of hydrogen fluoride. If an acyl chloride is used as a starting material instead of the acid, hydrogen chloride is first given off but condensation occurs if the mixture is heated under pressure to 80° to 100°. Esters likewise condense with benzene to give alkylbenzenes and small amounts of ketones. Fieser and Hershberg (Harvard University)



have found hydrogen fluoride particularly suitable for bringing about ring closure in the preparation of cyclic ketones from carboxylic acids; the yields are better than when sulfuric acid is the reagent. Acenaphthene was found to be rather unique among hydrocarbons in the ease with which it condenses with carboxylic acids. With most hydrocarbons temperatures above the boiling point of hydrogen fluoride are necessary.

One of the interesting reactions observed in the degradation experiments that led to the determination of the structure of vitamin B<sub>1</sub> was a cleavage of a quaternary ammonium salt with sodium sulfite. Snyder and Speck (University of Illinois) have shown that this is a general reaction for ammonium derivatives containing the benzyl and phenyl groups.

#### THE VITAMIN B COMPLEX

Some further progress has been made in the chemistry of members of the vitamin B complex. Professor Elvehjem (University of Wisconsin), in a recent summary of what is known about these substances, pointed out that no less than ten different factors belong to the complex. Of these, B<sub>1</sub> or thiamin, riboflavin, and nicotinic acid have previously been identified chemically. Recently Keresztesy, Stevens, Stiller, Harris and Stevens (Merck and Co., Inc.) have determined the structure and accomplished the synthesis of vitamin B<sub>6</sub>. It was found to be a derivative of pyridine, 2-methyl-3-hydroxy-4,5-di-(hydroxymethyl)-pyridine.

#### VITAMIN E DEVELOPMENTS

Since the synthesis in 1938 of  $\alpha$ -tocopherol, the most active of the compounds having vitamin E activity (see THE AMERICAN YEAR BOOK, 1938, p. 727), knowledge of this group of compounds has been greatly extended by Smith and coworkers (University of Minnesota) and others. It has been known for some time that there are at least three naturally occurring compounds with vitamin E activity. Tests made on a variety of synthetic products have shown that this activity is exhibited also by substances of various types including analogs of

the tocopherols, esters of these compounds, phenol derivatives and hydroquinones. The physiological activity of none of these compounds is as great, however, as that of  $\alpha$ -tocopherol. It was suggested that the structural feature necessary for a substance to be active is a combination which can be utilized in an oxidation-reduction system.

#### CHEMISTRY OF VITAMIN K

During the year the chemical nature of the vitamins K became established and vitamin K<sub>1</sub> was synthesized. The remarkable speed with which this work was accomplished was due to the interest of several groups of investigators in the problem. In May Doisy and coworkers (St. Louis University) described two pure substances having vitamin K activity. One of these (K<sub>1</sub>) was isolated from alfalfa and the other (K<sub>2</sub>) from putrefied sardine meal. The latter substance was about one half as active in causing the clotting of blood as the former. Both compounds were believed to be quinones because of their absorption spectra and behavior toward light and alkali. In June the same group of investigators reported the preparation of the hydroquinone acetates from the vitamins. This was followed in July by the announcement that 1,4-naphthoquinone has vitamin K activity and that from degradation experiments vitamin K<sub>1</sub> was probably 2-ethyl-3-phytyl-1,4-naphthoquinone. In June Almquist and Klose (University of California) reported that phthiocol, 2-methyl-3-hydroxynaphthoquinone, which had been isolated from human tuberculosis bacillus by Anderson and coworkers (Yale University) had vitamin K activity. In July Almquist and Klose, Doisy and coworkers and also Ansbacher and Fernholz (Squibb Institute for Medical Research) reported that 2-methyl-1,4-naphthoquinone was highly active. From oxidation-reduction potential measurements made by Riegel and Smith (Northwestern University) and from absorption spectra of the vitamins Fieser and coworkers (Harvard University) concluded that they were 2,3-dialkyl-



1,4-naphthoquinones. Of several simple naphthoquinones prepared the allyl derivative was most active. However, Doisy and coworkers reported that this had no activity. In August Fieser and coworkers gave further arguments for the 2-alkyl-3-phytylnaphthoquinone structure and suggested that the alkyl was more likely methyl than ethyl since methylnaphthoquinone derivatives are common in nature whereas the ethyl compounds are not. It was also suggested that vitamin K<sub>2</sub> was probably 2,3-difarnesyl-1,4-naphthoquinone.

In the September number of the *Journal of the American Chemical Society* the structure of vitamin K<sub>1</sub> was completely elucidated. Doisy and coworkers found that the acidic degradation product obtained from the dihydrovitamin diacetate was 2-methyl-1,4-naphthoquinone-3-acetic acid and hence the vitamin must be the 2-methyl-3-phytylnaphthoquinone. This compound was then synthesized by introduction of the phytol group into 2-methyl-1,4-naphthohydroquinone by means of phytol bromide followed by oxidation with oxygen to the vitamin. Fieser synthesized the same substance using phytol with oxalic acid as the condensing agent. Almquist and Klose reported that an active compound was produced by condensing 2-methyl-1,4-naphthoquinone with phytol but the product was not positively identified as the vitamin although it did show the characteristic physiological action.

Of the various synthetic compounds showing vitamin K activity 2-methyl-1,4-naphthoquinone is the most accessible, and it has been suggested by Doisy that this should be used as a standard; the unit of activity could be that produced by one microgram of the pure substance. This activity is equal to or greater than that of vitamin K<sub>1</sub>. The corresponding hydroquinone is also highly effective in decreasing clotting time and may be administered intravenously in aqueous solution.

#### SYNTHESIS OF SEX HORMONES

Some of the sex hormones have previously been prepared in the lab-

oratory from other similar naturally occurring substances. Recently Bachmann, Cole and Wilds (University of Michigan) succeeded in effecting a synthesis of equilenin from simpler substances. The starting point in the synthesis was a compound made from 1-naphthylamine-6-sulfonic acid (Cleve's acid), a dye intermediate that is readily obtainable from naphthalene, a component of coal tar. Since Marker (Pennsylvania State College) had earlier found it possible to convert equilenin into estrone by reduction the "total synthesis" of both of these substances has been accomplished.

Difficulty in obtaining a supply of progesterone, the corpus luteum hormone, has led Spielman and Meyer (University of Wisconsin) to devise a new method for preparing it from cholesterol which is readily available. This method involves the addition of bromine to cholesterol in benzene, oxidation with potassium permanganate and then removal of the bromine with zinc. The over-all yield is only 0.2 per cent but even so is an improvement over previous procedures. It is clear that a synthesis which will make progesterone more readily available is very much needed.

#### THE SIZE OF STARCH MOLECULES

The determination of the number of  $\delta$ -glucose units that are in combination in a molecule of potato starch has been effected by a new method. Wolfrom and coworkers (Ohio State University) found that when starch is treated with hydrochloric acid in the presence of ethyl mercaptan the extent of hydrolysis can be measured by the amount of sulfur present in the product. In this way the starch molecule was found to contain in the neighborhood of 20  $\delta$ -glucose units. This result is in fair agreement with that of other chemical methods which indicate that 25 to 30 simple sugar units are joined together. On the other hand the behavior of starch solutions indicates that the size of the starch aggregates is much larger with 1,000 or more  $\delta$ -glucose units in

combination. It has, therefore, been suggested that in solution the molecules exist in clumps of various sizes.

An investigation of the molecular weight of commercial cellulose acetate by the hydrolysis rate method indicated that here some 400 8-glucose units are in combination.

#### THE STRUCTURE OF PROTEINS

Several years ago Frank made the suggestion that six-atom rings are present in protein molecules due to the interaction of carbonyl and imino groups of a peptide chain. In 1938 Wrinch and Langmuir (General Electric Company) came to the conclusion that the x-ray data on crystalline insulin were in accord with this "cyclol" hypothesis and indeed gave it strong support. In 1939 Pauling and Niemann (California Institute of Technology), in a careful analysis of available evidence, have pointed out the difficulties involved in the determination of the structure of a substance as complex as a protein by x-ray methods and showed that the interpretation of the insulin evidence was rendered invalid by the large number of parameters that were assigned arbitrary values. This criticism and that of Bernal indicates that the cyclol hypothesis so far has no experimental backing. Pauling and Niemann point out that the structure of denatured proteins is best explained by polypeptide chains and, since the heat of denaturation of a protein is small, the "cyclol structure cannot be of primary importance for proteins; if it occurs at all not more than about three per cent of the amino acid residues could possess this configuration." Many other independent pieces of evidence lead to the same conclusion.

#### PROGRESS IN RUBBER CHEMISTRY

In 1939 at the Boston Meeting of the American Chemical Society there was celebrated the centenary of the discovery of the vulcanization of rubber by Charles Goodyear. The rubber industry which began with this discovery now employs about 4,000,

000 persons, and almost \$3,000,000,000 is invested in various aspects of the industry. In an average year the consumption of rubber amounts to 2,000,000,000 pounds. As was pointed out by speakers at the celebration, there have been four notable developments since Goodyear's time which have made rubber the useful material it now is. There were the development of "accelerators" for increasing the speed of vulcanization, the discovery of anti-oxidants which prevent the rapid deterioration of rubber goods, the invention of methods for handling rubber latex, and the recent production of a variety of synthetic rubbers each of which has its own particular uses. It should be added that, despite the century that has elapsed since Goodyear's discovery, the chemical nature of the change that occurs in vulcanization is not yet exactly defined. It is interesting that vulcanization is applicable to the new synthetic rubbers such as the neoprene made in this country and the Buna rubber made in Germany and produces changes in properties similar to that observed for natural rubber.

#### PHTHALOCYANINE DYES

During the course of development of the synthetic dye industry many thousands of dyes have been made and now more than 1,000 are commercially available. In spite of this the *classes* of dyes are relatively few, particularly if they are classified according to the *chromophore groups* responsible for the color. As was recently pointed out by Dahlen (E. I. du Pont de Nemours and Company), the phthalocyanines contain "the first new chromophore of commercial importance developed in a quarter of a century." These dyes are particularly interesting to the chemist because the chromophore is closely related to that of two natural pigments, the chlorophyll of green plants and the hemin of the blood. However, the phthalocyanines themselves are not naturally occurring and they were prepared before they were known to be related to the natural pigments.

The phthalocyanines are blue or green pigments or dyes of various shades. For example, copper phthalocyanine, a brilliant stable blue pigment, is being used in printing inks, paints, rubber, linoleum and wall-paper. If sulfonic acid groups are introduced into this pigment it becomes a greenish blue soluble dye of various uses. The pigments are in general unusually stable toward heat and are able to withstand temperatures up to 500°C. Since they are also insoluble in water and in most organic solvents and are little affected by chemical reagents, they are as a class extraordinarily inert.

#### SOURCES OF MEDICINALS AND INDUSTRIAL CHEMICALS

The incidence of war and the accompanying blockades in Europe raise the question of the dependence of the United States upon foreign sources of supply for industrial chemicals and medicinals. Unlike the years following 1914 this country will not be handicapped by being unable to buy German dyestuffs and drugs. However, there are still a number of substances which are obtained wholly or in part from foreign sources. The important metals that are not obtained from domestic sources to the extent of more than 10 per cent of our needs include antimony, chromium, cobalt, nickel, platinum, and tin. In addition about one-half of the bauxite for aluminum, mercury, tungsten, and vanadium are imported and about 75 per cent of the manganese. Of the important medicinals, quinine (from cinchona bark) and opium are purchased abroad. All of the natural rubber and most of the asbestos and iodine also come from outside the United States. Camphor, which was formerly available only from Japan, is now made synthetically to an increasing extent. Cryolite, necessary for the production of aluminum, occurs naturally only in Greenland but the manufactured product is taking its place. A detailed discussion of "Strategic Raw Materials" has recently been published. (Van Antwerpen, *Ind. Eng. Chem.* 31, 520 (1939).)

#### UTILIZATION OF AGRICULTURAL PRODUCTS BY CHEMICAL INDUSTRIES

The existence of a surplus of farm products in recent years, with the resulting low price level, has greatly increased the general interest in the industrial utilization of these materials. The use of farm products through applied chemistry has been referred to as "chemurgy." The belief that non-food uses of agricultural materials may be increased by intensive research led Congress to appropriate money for four regional research laboratories. Construction of these, which are located in the vicinities of Peoria, Ill., San Francisco, New Orleans, and Philadelphia, has begun and the nucleus of the research staff has been chosen. When these laboratories are in full operation it is expected that each will provide facilities for about 250 scientists and engineers.

Although only recently the idea of "chemurgy" has received much publicity, many farm products have been and are processed by chemical industries. For example, casein from skim milk is finding application in paper coating, plastics, adhesives and in water paints. Recently a variety of fiber referred to as a synthetic wool has also been made from casein. Soy beans have been utilized in making plastics and paints as well as being a source of food products. Not only is corn used as a starting material in the manufacture of starch but the oil and more recently the protein (zein) of corn has found industrial application. Due to intensive research a process has been devised for preparing pure dextrose (corn sugar) at a low price from starch, and in 1939 a variety of chemicals derived from the dextrose has been put on the market.

The utilization of farm waste materials has been successful in a few instances. Furfural is made in large quantities from the oat hulls that accumulate at a breakfast food plant. From the furfural many other chemicals with diverse uses have been synthesized. Another outstanding achievement is the processing of southern longleaf pine stumps for the



## ELECTROCHEMISTRY

preparation of pine oil, turpentine and rosin. The capacity of present plants is about 1,300 tons of wood per day. The cut-over lands of Mississippi, Georgia, and Florida will supply raw material for many years for this industry. Not only is an otherwise useless material converted into wealth but the cleared land is made available for agricultural purposes or for reforestation. According to Schantz

and Marvin (Hercules Powder Co.) the yield of rosin per ton of stump wood has now reached 370 lbs. The oil obtained amounts to 14 gallons per ton.  $\alpha$ -Pinene, one of the components of the oil, is the starting material for the preparation of camphor which is now competing successfully with the natural product from Formosa. Other components have found a variety of outlets.

## ELECTROCHEMISTRY

By COLIN G. FINK

PROFESSOR, COLUMBIA UNIVERSITY

### GROWTH IN ELECTROCHEMICAL AND METALLURGICAL INDUSTRIES

During the last 20 years there has been a very marked increase in the electric power consumption by the electrochemical and metallurgical industries. Few realize that today approximately 25 per cent of the total electricity generated in the United States is consumed by the electrochemical and metallurgical industries. Particularly noteworthy is the phenomenal growth of the major electrochemical products. Thus, for example, the world's output of aluminum increased from 150,000 metric tons in 1919 to 300,000 in 1929 and to 600,000 metric tons in 1939; electrolytic zinc from 70,000 tons in 1919 to 600,000 tons in 1939; and calcium carbide from 900,000 tons in 1919 to 2,600,000 tons in 1939.

### ELECTRODEPOSITION

**Manganese.**—In the 1938 report reference was made to the researches on the electrodeposition of manganese. Increased interest in this metal developed during 1939 due to the impending hostilities in Europe and due to the fact that over 90 per cent of our steel companies' supply of manganese ore is imported from Africa, Russia and elsewhere. American manganese ore deposits are, in general, of low grade and not suitable for the standard smelting processes. Manganese is a key metal: "No man-

ganese, no steel." Accordingly, stimulated by the widespread demand for a metallurgical process applicable to our native low-grade manganese deposits, experiments were pushed by the U.S. Bureau of Mines and the electrochemical laboratories at Columbia. The electrowinning process which S. M. Shelton and associates of the Bureau applied to low-grade manganese ores showed promise. However, the loss of at least 20 to 30 per cent of manganese in the electrowinning process was excessive. In the spring of 1939 Fink and Kolodney of Columbia announced that this loss of manganese in the process had been eliminated by the discovery and development of a new cobalt-tin-lead anode.

A commercial electrolytic manganese plant was built at Knoxville, Tenn. by the Electromanganese Corporation with an initial production of 1,000 lbs. of manganese metal per day. Low-grade Tennessee ore is used as raw material. The prospects are considered good for a rapid development of the electrolytic manganese industry.

**Bright nickel plating** is now a well established commercial process. As the plated articles are taken from the bath, they present a mirror surface that requires no buffing or polishing as has been the case heretofore with the old nickel baths. A number of different "bright" nickel baths are in use today aside from the original



Fink and Lah bath that contained cobalt as brightening agent.

W. A. Wesley and J. W. Carey of the International Nickel Company introduced a new nickel chloride plating bath. The new bath requires but half the electric energy to operate as compared with the standard sulfate bath; furthermore, the nickel plate obtained is smoother and tougher. This new bath promises wide technical application.

**Electroplating Process.**—A noteworthy step in the development of tinned steel was the decision on the part of a number of the major tinplate companies to adopt the electroplating process in place of the old molten tin process. Aside from the superior quality of the electroplated plate, there is a very appreciable saving in tin, a strategic metal imported from British India and Bolivia.

**Chromium Plating.**—The outstanding development has been the widespread introduction of thick chromium plate for efficient corrosion protection of articles made of steel, copper and brass. Likewise, heavy chromium plate is now regularly applied to various metal wearing surfaces in order materially to increase the serviceable life of these bearings. Chromium has a low coefficient of friction as compared with that of other metals. Similarly, the hard chromium surface applied to the relatively soft surface of innumerable zinc die castings has extended the useful life of these castings almost indefinitely.

**Iron Plating.**—The commercial development in the production of thin sheets of copper by electrodeposition has stimulated renewed interest in electrolytic iron deposited as a pipe on a revolving steel mandrel. Furthermore, the recovery of iron by electrodeposition from spent pickling solutions offers the best answer to the perennial problem of how to dispose of these "oceans" of spent solutions released by the steel industry and others in the face of the more rigid state and Federal restrictions as to river and lake pollution. The United States Rubber Company perfected a process of electroforming with iron.

**Sulfamic Acid Solvent.**—Of special

interest to the plating art is the introduction of sulfamic acid as a new solvent for plating baths. Smooth electrodeposits of lead were produced by Frank C. Mathers and Robert B. Forney of Indiana University from a lead sulfamate bath. At other laboratories sulfamate baths of nickel, copper, cobalt, and other metals produced deposits very satisfactory in quality.

#### BATTERIES AND CORROSION

Anna P. Haul reported at length on the cadmium-nickel storage battery widely used in Europe in place of the well-known lead storage battery. The new battery is particularly applicable to severe service conditions since the active material of the battery plates does not shed readily, and wide fluctuations of temperature have but little effect.

The outstanding electrochemical conference of the year was that devoted to Corrosion held at New York under the auspices of The Electrochemical Society. The conference was of international scope, the countries represented including England, Germany, Sweden, Poland, and the United States. It is now almost universally conceded, on the basis of many experiments and scientific studies, that the fundamental cause for the corrosion of metals is the presence of galvanic couples or cells in the surface of the metal. As a general rule, such cells are due to inhomogeneity of the surface which, in turn, is due to the presence of impurities or to mechanical irregularities in the surface. Eliminating these surface cells and defects, or covering them up with a film of uniform composition, will eliminate corrosion or at least greatly enhance the particular metal's resistance to rust or corrosion.

E. Berl of the Carnegie Institute of Technology developed a new cathodic process for making hydrogen peroxide. This process is cheaper than the older anodic processes.

#### FUSED ELECTROLYTES AND ELECTRIC FURNACE PROCESSES

The perfection of an electric furnace process to replace the fused salt

## ELECTROCHEMISTRY

process for the production of magnesium metal was recorded in the 1938 report. The success of the furnace process in the case of magnesium has stimulated researches with other metals, notably zinc. Possibly metals such as sodium, calcium and aluminum will soon follow suit.

Articles made of magnesium are now effectively protected against corrosion by treating the surface with a fluoride. The development of the magnesium metal industry has been phenomenal. The world's output of this metal totalled 35,000 metric tons in 1939 as against 2,500 tons in 1929, a 14-fold increase.

Coal is a very important raw material for the chemical industry. Accordingly, any improvement in process for the extraction of the valuable oil and tar in coal is welcomed by the

industry. H. Stevens of Cincinnati reported at length on the "Electric Carbonization of Coal." The coke produced is of uniform burning quality, and the oil recovered is superior to that extracted by the older non-electrical methods.

### ELECTRO-ORGANIC CHEMISTRY

Interest in this branch of electrochemistry is expanding rapidly. The Electrochemical Society has now established a distinct division devoted to electro-organic chemistry. During the year, investigations were promoted on the effect of silent and high frequency discharges through various organic vapors. The Standard Oil Development Company perfected a process for the thickening of lubricating oils by subjecting the oils to silent electric discharges.

## CHEMICAL SOCIETY MEETINGS, 1939

### AMERICAN CHEMICAL SOCIETY

97th Meeting.....	Baltimore	April 3-7
98th Meeting.....	Boston	Sept. 11-15
Symposium, Division of Physical and Inorganic Chemistry on "Chemical Kinetics of Gas Reactions"...	Madison, Wis.	June 20-22
16th Colloid Symposium, Division of Colloid Chemistry.....	Stanford University	July 6-8
Ohio-Michigan Regional Group ....	East Lansing, Mich.	Oct. 27-28
6th Chemical Engineering Symposium on "Separation Operations"	Ann Arbor, Mich.	Dec. 28-29
8th National Organic Chemistry Symposium, Division of Organic Chemistry.....	St. Louis	Dec. 28-30

### AMERICAN INSTITUTE OF CHEMICAL ENGINEERS

Meeting.....	Akron, Ohio	May 15-17
Meeting.....	Providence	Nov. 15-17

### AMERICAN CERAMICS SOCIETY

Meeting.....	Chicago	Week of April 16
Meeting.....	San Francisco	Aug. 6-12
Meeting.....	Uniontown, Pa.	Sept. 15-16
Meeting.....	Skytop, Pa.	Sept. 8-10

### ELECTROCHEMICAL SOCIETY

Meeting.....	Columbus, Ohio	April 26-29
Meeting.....	New York City	Sept. 11-13

### AMERICAN SOCIETY FOR TESTING MATERIALS

Meeting.....	Columbus, Ohio	March 6-10
Meeting.....	Atlantic City	June 26-30
Meeting.....	San Francisco	July 23-30

## XXI. CHEMISTRY AND PHYSICS

### PERIODICAL PUBLICATIONS

---

*American Physics Teacher*  
American Institute of Physics, 175  
Fifth Ave., New York City.  
*Chemical and Metallurgical Engineering*  
330 West 42nd Street, New York  
City.  
*Chemical Engineering Catalogue*  
330 West 42nd Street, New York  
City.  
*Chemical Industries*  
25 Spruce Street, New York City.  
*Chemist (The)*  
233 Broadway, New York City.  
*Industrial and Engineering Chemistry*  
Mills Building, Washington, D.C.  
*Journal of the American Chemical  
Society*  
Easton, Pa.

*Journal of Chemical Education*  
11 West 42nd Street, New York City.  
*Journal of Chemical Physics*  
175 Fifth Ave., New York City.  
*Journal of Mathematics and Physics*  
Massachusetts Institute of Tech-  
nology, Cambridge, Mass.  
*Journal of Organic Chemistry*  
Williams & Wilkins, Baltimore, Md.  
*Journal of Physical Chemistry*  
Mount Royal and Guilford Aves.,  
Baltimore, Md.  
*Nature*  
295 Madison Ave., New York City.  
*Physical Review*  
175 Fifth Ave., New York City.  
*Physics*  
175 Fifth Ave., New York City.

### COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

---

AMERICAN CHEMICAL SOCIETY, 728 Mills Bldg., Washington, D.C.	AMERICAN SOCIETY OF BIOLOGICAL CHEMISTS, State University of Iowa, Iowa City, Ia.
AMERICAN ELECTROCHEMICAL SOCIETY, Broadway and 117th St., New York City.	ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS, Box 290, Penn. Ave. Station, Washington, D.C.
AMERICAN INSTITUTE OF CHEMICAL ENGINEERS, 29 W. 39th St., New York City.	COPPER AND BRASS RESEARCH ASSN., 420 Lexington Ave., New York City.
AMERICAN INSTITUTE OF PHYSICS, 175 Fifth Ave., New York City.	NATIONAL RESEARCH COUNCIL, 29 W. 39th St., New York City.
AMERICAN MICROSCOPICAL SOCIETY, Kansas State College, Manhattan, Kan.	SOCIETY OF CHEMICAL INDUSTRY, Pratt Institute, Brooklyn, New York City.
AMERICAN PHYSICAL SOCIETY, Colum- bia University, New York City.	SYNTHETIC ORGANIC CHEMICAL MANU- FACTURERS ASSN., 260 W. Broadway, New York City.

## DIVISION XXII BIOLOGY

### ORGANIC EVOLUTION AND GENETICS

BY MYRON GORDON

GUEST INVESTIGATOR IN GENETICS, NEW YORK AQUARIUM

#### SEVENTH INTERNATIONAL CONGRESS OF GENETICS

The outstanding event of the 1939 season in genetics was the Seventh International Congress of Genetics. Despite the ominous threat of war during the summer of 1939, the Congress, postponed from the originally scheduled one in 1937 at Moscow, was successfully held in Edinburgh. The Congress opened Aug. 23 with the full membership of 550 members, about 150 of whom were from the United States. By Aug. 25-26 war threats emerged so strongly that first the German, then later some of the French and Polish delegations, and finally by Aug. 28 most of the Dutch and Scandinavian members, departed. The Congress adjourned a day and a half early.

As the elected president of the Congress, Dr. N. I. Vavilov (Leningrad) failed to appear, and Dr. F. A. E. Crew, general secretary of the Congress and professor of genetics at the University of Edinburgh, was unanimously elected president.

The scientific program comprised over 350 papers on Gene-Chromosome Theory, Cytology, Physiological Genetics, Animal Breeding, Plant Breeding, Human Genetics, Evolution, Systematics, Statistical Genetics, and Genetical Aspects of Growth. Word has come that, in spite of hardships due to the war, the publications will be issued in 1940 and some of the contents will be presented in this sec-

tion in THE AMERICAN YEAR BOOK for that year.

#### EVOLUTION OF MAIZE

Professor G. W. Beadle of the School of Biological Sciences at Stanford University has presented another suggestion concerning the origin of the maize mystery. His suggestion is as follows: When subjected to heat, the seeds of teosinte pop in the same manner as do kernels of common popcorn. These popped kernels are entirely separated from the hard inedible hull normally enclosing them, and are admirably suited to human consumption. The hypothesis is suggested that prehistoric American man discovered this means of utilizing teosinte as a food plant, developed methods of cultivation for this plant, and over a period of many hundreds of years selected the combination of the five or more major and the many minor gene and chromosome mutations that now distinguish cultivated maize from its presumed wild ancestor. For further comment the reader is directed to the *Journal of Heredity* (30:245-247, 1939).

#### GENETIC FACTORS AND EPIDEMICS

The role of inborn resistance factors in epidemiology is being investigated by experimental studies on mouse typhoid by Dr. Leslie T. Webster of the Rockefeller Institute for Medical Research in New York City.



He finds that, under conditions in which the disease is allowed to spread naturally among herds of mice comprised of different proportions of individuals of innately high or low susceptibility, 85 to 95 per cent of the innately susceptible succumb to the infection, in contrast to less than five per cent of the innately resistant. Survivors are almost exclusively the individuals known at the outset to have been innately resistant. There was no tendency for known susceptibles to become immunized through herd exposure during an epidemic or after an epidemic has passed.

Dr. Webster writing in the *Journal of Heredity* (30:365-370, 1939) says that, given the fact that inherited factors are of basic importance in determining the character of infection in both the individual and the herd, these factors have been modified by environmental changes such as diet. The worker at Rockefeller Institute presents his theory of epidemics. He says: "We now believe epidemics are caused in hitherto uninfected populations by the introduction and spread of a highly virulent yet stable infecting agent. In populations already infected the agent remains stable and the epidemic is caused by a lowering of population resistance through the addition of susceptible immigrants or through some generally depleting factor, such as inadequate diet."

#### SEXUALITY OR MATING TYPES IN PROTOZOA

Presented at the joint symposium of the American Society of Zoologists and the Genetics Society of America in conjunction with the American Association for the Advancement of Science at Richmond, Va., Dec. 30, 1938, was a series of papers devoted to the study of "Mating Types and Their Interactions in the Ciliate Infusoria." They have appeared in the *American Naturalist* (73:385-456, 1939). In his introduction to the five contributions, Prof. H. S. Jennings of Johns Hopkins University states that "we are to deal with the differentiation of organisms into diverse classes, two or more than

two, such that members of the same class do not unite for reproduction, while members of different classes do so unite. We are calling these diverse classes *mating types*; from this point of view the two sexes in higher organisms are mating types."

These conditions are extremely diverse in different species. In any species or race the conditions fall into a clearly marked system, a system comparable to that of sex diversity and sex determination in higher organisms. As in other animals exceptional conditions have appeared, and it is thought possible that these indicate that the mating systems in the lower organisms are in a state of evolutionary flux.

The following are the papers presented: *Paramecium aurelia*: Mating types and groups; lethal interactions; determination and inheritance, by Dr. T. M. Sonneborn of Johns Hopkins University; *Paramecium bursaria*: Mating types and groups, mating behavior, self-sterility; their development and inheritance, by Professor Jennings; Studies on conjugation in *Paramecium multimicronucleatum* by Prof. Arthur C. Giese of Stanford University; Mating types in *Paramecium* by Dr. Lauren C. Gilman of Johns Hopkins University; and Mating types in *Euplotes* by Dr. Richard F. Kimball of Yale University.

#### SIMILARITY OF CHIMPANZEE TO MAN

Prof. Robert M. Yerkes, speaking as president to the American Society of Naturalists at Richmond, pictured the psychobiological characteristics of the chimpanzee. Professor Yerkes pointed out that the chimpanzee is highly similar to man in structure, development, physiological processes, behavior, social relations, susceptibility to disease, and response to various educative or therapeutic measures. His speech was entitled "The Life History and Personality of the Chimpanzee," and it appeared in the *American Naturalist* (73:97-112, 1939).

#### EVOLUTION OF SOCIAL ORGANIZATION

Dr. G. K. Noble, director of the Laboratory for Experimental Biology

of the American Museum of Natural History, speaking before a symposium of the American Society of Naturalists in joint session with the American Society of Zoologists, the Botanical Society of America, and the American Association for the Advancement of Science, at Richmond, Va., traced the evolution of the social organization of vertebrates from fish to man. Throughout this series the same components of social behavior may be recognized, namely: "1. group attraction; 2, dominance behavior; 3, parental behavior; and 4, suggestion. An improvement in the social organization has included: 1, a change from inborn species attraction to a learned group attraction; 2, from a dominance behavior, recognizing only the individual, to one recognizing groups; and 3, from a subordinate, that considers the dominant individual only as a despot, to one that considers the latter a protector and guide. At the fish level the mood of a member of a social group may be quickly transmitted by the character of the individual's movement to other members of the group. Among higher vertebrates these movements are supplemented by vocal expressions which have specific effects upon the behavior of individuals in the group. In the absence of the forebrain, no social behavior is complete in any vertebrate. Forebrain mechanisms essential for social behavior have shifted from the corpus striatum of fish and birds to the cortex of mammals. The elaboration of the cortex in the higher primates is correlated with an increase in the importance of tradition and insight in regulating social behavior." These conclusions may be found in the *American Naturalist* (78:113-124, 1939) under the title of "The Experimental Animal from the Naturalist's Point of View."

#### RACES OF RODENTS AND MEN

Dr. C. C. Little, director of the R. B. Jackson Memorial Laboratory, traced the benefits to mankind that the laboratory rodents have contributed. One of his points is timely: "There is, moreover, another way in which the laboratory rodents have

done a great and lasting service to those of mankind who are not today blinded by emotion disguised as pseudo-science. They have made racial 'superiority' and 'inferiority' antiquated terms in human biology. They have done this in various ways but chiefly by giving us living examples of the unsoundness of many of our former ideas and of the terms which we very glibly used to describe them.

"By providing overwhelming evidence of the complex genetic situation in 'strains' of laboratory rodents, the implied value of such terms as 'race,' 'strain' and 'family' among the vastly more complicated human 'genetic' groups has disappeared. When it was obviously none too easy to find any satisfactory criteria of qualitative differences between *species* of laboratory rodents it was impossible to become as aroused as formerly over supposed 'racial' or 'national' superiority-differences between human beings of the same species.

"The philosophy which thus arose from the evidence obtained in the rodent laboratory is one which very definitely relegates the troublesome and stupid distinctions which agitate the world today to the realm of propaganda without scientific basis." (*American Naturalist* 78:127-138, 1939.)

#### CHROMOSOME STRUCTURE

Biologists will acknowledge today that exact knowledge as to the nature of the chromosomes and the genes is so meager that many alternative hypotheses are still possible. A discussion of this subject was the theme at a joint symposium of the American Society of Zoologists and the Genetics Society of America in conjunction with the American Association for the Advancement of Science, held at Richmond Dec. 28, 1938. Dr. B. R. Nebel, cytologist of the New York State Experimental Station at Geneva, N.Y. spoke on the subject of 'On coiling in chromosomes.' Dr. C. H. Waddington, whose new book is reviewed elsewhere in this report, spoke on 'The physicochemical nature of the chromosome and the gene.' Prof.

Theophilus Painter of the University of Texas presented a paper entitled 'The structure of salivary gland chromosomes.' The final paper in this symposium was given by Dr. M. Demerec, assistant director of the Department of Genetics of the Carnegie Institution of Washington, Cold Spring Harbor, N.Y. His title was 'Chromosome structure as viewed by a geneticist.' The summary in the last paper is as follows: "As viewed by at least one geneticist, chromosomes are composed of a fiber-like chromonema which is structurally similar throughout the whole chromosomal complex and to which are attached various radicals. A segment of the chromonema with a number of radicals form a molecular unit which is recognizable through its action as a gene. Indications are that genetically active units contain nucleic acid. The whole chromosomal complex forms a sensitively balanced system. The activity of individual units, genes, is determined by their chemical constitution, by the constitution of the whole system and by their position within that system."

#### BACTERIA AND THE CHEMISTRY OF EVOLUTION

As a student of bacteriology, Dr. Otto Rahn of Cornell University points out that bacteria have decided advantages for the study of chemical and physical factors in evolution. While the geneticists work with hundreds and thousands, rarely with millions of individuals, the bacteriologist finds many million cells in each cubic centimeter of his culture medium, and one liter of culture frequently contains 1,012 individuals. Such a population, exceeding the human population of the world, can be produced in 24 hours.

In his paper, 'Building stones to a chemistry of evolution,' Dr. Rahn concludes that evolution depends to a large extent on the formation of new kinds of hereditary units, *e.g.* genes. Such formations can be caused only by a chemical reaction and therefore must follow chemical laws. The frequency of the creation of a new hereditary unit in any given species is

proportional to the number of individuals born per year. It is greater in warmer climates because chemical reactions proceed more rapidly at higher temperatures. New units are not caused by cosmic rays or any other kind of radiation because the rate of reaction caused by radiation is independent of the temperature. Finally, a change of environment is likely to affect cell chemistry and to induce new reactions which might lead to the formation of new hereditary units. With reference to bacteria, he states, these changes are enormous for such organisms as soil and intestinal bacteria. Variation in bacteria is so common that speciation is absolutely arbitrary in several groups. (*American Naturalist*, 78: 26-43, 1939.)

#### CHROMOSOME TYPES AND GEOGRAPHICAL UNITS

Continuing his studies of chromosomal and genetic analysis of wild populations, Prof. Th. Dobzhansky of the California Institute of Technology, cooperating with Dr. D. Socolov of the Escuela Nacional de Ciencias Biologicas of Mexico City, has presented new material on the 'Structure and Variation of the Chromosomes in *Drosophila azteca*' in the *Journal of Heredity* (30:3-19, 1939).

Depending upon the nature and extent of the inversion of the chromosomes, a number of distinctive types have been recognized by the technique of salivary chromosomes studies. They have presented a phylogenetic relationship which unites the types.

Under the subhead of 'Geographical distribution of gene arrangements' they point out that strains derived from flies collected in the same locality frequently differ from each other in the gene arrangements in one or in several chromosomes. Differences in the gene arrangements occur even between individuals in the offspring of a single female collected outdoors. This does not mean that inversions are constantly arising *de novo* for this is a relatively rare phenomenon; repeated investigations of the same strain show always the same chromosome structure or group of



structures. The occurrence of chromosome variations in a population inhabiting a given locality does not enable one to find the entire variety of chromosome structures in any given geographical region. On the contrary, strains coming from remote regions more frequently prove to be distinct than do strains from the same locality. All the available evidence indicates that the species *D. Azteca* is differentiated in geographically isolated populations which may be either qualitatively or quantitatively different in chromosome structure. They call these separate populations, subgroups or chromosomal races, since they differ in gene and chromosome arrangement.

The geographical distribution of the chromosomal types shows a similarity between the populations inhabiting west-central California and the State of Durango in Mexico. These regions are separated by a wide territory where the species does not occur at all, hence the presence of identical chromosomal types on either side of the barrier indicates that these types are phylogenetically primitive or that a considerable part of the chromosomal variability now detectable in the species has arisen in the remote past and has been retained ever since.

#### PROTECTIVE COLORATION

Since Dr. F. B. Sumner reopened the discussion of the survival value of protective coloration with his brilliant experiment with fishes, every year now there is further information on this important subject. In THE AMERICAN YEAR BOOK for 1938 a statement was issued on the survival value of protective coloration in grasshoppers and now this year there is to be reported a similar study made with reptiles.

L. M. Klauber writing in the *Bulletin of the Zoological Society of San Diego* (14:65-79, 1939) under the title of "Speculations on protective coloration and protective reflectivity," Part II of *Studies of Reptile Life in the Arid Southwest*, presents the following summary and conclusions:

"Protective coloration seems to

have an important bearing on the colors and color variations of the reptiles of the southwest. In some situations protective coloration and protective reflectivity work to the same end; where the two would tend to produce opposite results, protective coloration seems to be controlling. These conclusions are speculative, since we lack adequate data on the visual acuity of predators, and on the response of reptile surfaces to incident solar radiations of wave lengths which do not affect human vision."

#### MORE MUTATIONS BY HYBRIDIZATION

Prof. A. H. Sturtevant of the W. G. Kerckhoff Laboratories of the California Institute of Technology has reported that the increase in variability is a familiar result of the rearing of second generations from crosses between different races. It is due chiefly to segregation and recombination of genes in which the parental races differed. There is, however, a persistent feeling that perhaps interracial crossing also induces the production of new mutations. The first attempts to test this view experimentally with *Drosophila* led to negative results.

In new trials Professor Sturtevant reports positive results, saying that the offspring of the backcrosses from hybrids between the two races (A and B) of *Drosophila pseudoobscura* show a large increase in mutation frequency. The paper entitled "High mutation frequency induced by hybridization" appeared in the *Proceedings of the National Academy of Sciences* (25: 308-310, 1939).

#### EVOLUTION OF LOCOMOTOR APPARATUS IN THE OCEAN SUNFISH

In a paper entitled "On the anatomy and evolution of the locomotor apparatus of the nipple-tailed ocean sunfish (*Masturus lanceolatus*)," which has been published in the *Bulletin of the American Museum of Natural History* (76:143-150, 1939), Dr. Henry C. Raven of that institution has presented a series of drawings indicating the progressive evolution of fins, mus-



culature, viscera and skeleton from a non-specialized form like the striped bass (*Roccus*) to more specialized types like the tang (*Hepatus*), the triggerfish (*Balistes*), the porcupinefish (*Diodon*), to, finally, the ocean sunfish (*Masturus*). These pictures must be seen to appreciate the important points that Dr. Raven makes. His conclusions are as follows, with respect to the major changes involved in passing from a generalized fish to the highly specialized sunfish: 1. great shortening and deepening of body; 2. extreme emphasis and vertical growth of dorsal and anal fins; 3. corresponding hypertrophy of erector and depressor muscles of dorsal and anal, involving their great extension forward and eventually atrophy and disappearance of the inclinotores muscles; 4. corresponding reduction and eventual loss of the lateralis mass of metameric musculature; 5. correlated reduction and loss of undulation of the body and of the true caudal fin; 6. formation of new pseudo-caudal fin by extension of dorsal and anal, meeting around the shortened caudal end of the column; 7. crowding of the posterior dorsal and anal pterygiophores against the seventh neural and eighth haemal spines; 8. crowding of the body cavity by forward growth of the erector plus depressor muscles of the anal fin; 9. reduction and loss of the puffing habit; and 10. the long ligament, from supraoccipital crest to the anterior border of the dorsal fin, probably a vestige of the trigger mechanism of balistoids.

#### PREHISTORIC LIFE

Under this title, Percy E. Raymond, professor of Paleontology at Harvard University, presents the story of the history of life from the time of its first appearance on the earth to the present. That history has been one of constant change, for better or for worse. Practically all Nature's changes are evolutionary in that they are orderly, sequential. In his introduction Professor Raymond says: "The inorganic, as well as the organic, evolves. Erosion changes a plateau into mountains and then into plains.

The present surface of the earth is the result of evolutionary processes. As will be shown, physical and organic evolution have gone hand in hand. It is difficult to say which has had the greater control, the innate qualities of living matter or the environmental. Organisms are plastic, environments rigid. Man cannot change the climates of the tropics or of the polar regions, but he can live in both. So far as possible, he adapts his habits to life under abnormal conditions, but no one will deny the fact that the environment changes him."

#### ECOLOGY AND EVOLUTION

A conference on ecology and plant and animal communities was held at the Biological Laboratory, Cold Spring Harbor, Long Island, New York from Aug. 29 to Sept. 2, 1938. The results of this conference have just been published in the *American Midland Naturalist* (21:1-255, 1939) and is issued in book form by the University Press, Notre Dame, Ind.

Every student of evolution realized the tremendous potential wealth of knowledge which ecologists may contribute to the subject of organic evolution, particularly in that field where they have as yet not been able to analyze experimental results. Reference is made to the point which Prof. A. W. Lindsey makes in a paper published elsewhere (*The Quarterly Review of Biology* 14:220-225, 1939) entitled "The Process of Evolution" in which he claims that geneticists have side-tracked the possible evidence for modification of germ plasm by environmental changes over long periods of time in such a manner that hereditary changes result.

Most of the papers presented at the conference dealt with ecological problems without reference to their relation to evolution but three of them may be regarded as important to the subject of evolution. The first is "Social Coordination and the Super-organism" by Alfred E. Emerson of Chicago University.

The subject treated by Professor Emerson may be expressed by quoting from the introduction: "An organized biological unit relatively in-

dependent of other units is considered a biological individual. Originally the individual unit must have been considered almost self-evident, but the analyses of intraspecific organic units have acquainted us with types of individual entities such as genes, viruses, non-nucleated cells, nucleated cells, cell colonies, multicellular organisms with simple tissues, metamorphic individuals, aggregations, sex pairs, families, societies, and finally interspecific groups of various ranks. These ascending hierarchies of integrated units with their special characteristics form the basis of the concept of emergent evolution." Dr. Emerson emphasizes the biological mechanisms and entities in his contribution. He states that from both ontogenetic and phylogenetic considerations the social organism parallels the integrative dynamics of the organism at lower levels of individuality and, at the same time, through a more complex coordination, tends to bring the environment of the organism under control.

Dr. N. Tinbergen presented a paper on "On the Analysis of Social Organization among Vertebrates, with Special Reference to Birds." He defines sociology as the study of the relations between individuals of the same species. He traces the behavior of organisms to each other and points out that some internal nervous process concerns an important problem of evolution, particularly in the field of sexual selection, along the lines that Dr. G. K. Noble has demonstrated.

Dr. Thomas Park of the University of Chicago presented a paper entitled "Analytical Population Studies in Relation to General Ecology." In it he presents some of the common biological properties of population: 1. possesses a definite structure and composition, constant for any moment of time but fluctuating with age; 2. is ontogenetic, exhibiting growth, differentiation and division of labor, maintenance and death; 3. is genetic, inheriting from each preceding generation a system of gene frequencies; 4. is integrated and coordinated, and 5. meets, as a unit, the full impact of the environment which may modify

it and which, in turn, it may modify.

Probably the most important ecological contributions have emerged from population studies in the analyses of density. Population density is not purely a phenomenon created by laboratory conditions. These studies have (1) given biological reality and meaning to density; (2) demonstrated the variety of organismic processes subject to its influence; (3) shown that the end results of increased crowding may be either immediately inhibiting or else stimulating to the population, and (4) suggested that density operates through behavioristic and environmental channels.

Dr. Park suggests four promising lines of attack on future problems, results of which will be important to ecology, and population studies. They can not fail to be important to evolution. (1) The acquiring of more basic facts about populations trends both in respect of laboratory and field populations. (2) Further analyses designed to see if theoretical frameworks of population interactions can be made more universal and understandable without loss of simplicity. (3) The empirical fitting of these frameworks with actual material as a test of their worth. (4) Closer analysis and understanding of the relations, common properties and differences between the experimental and the natural population.

#### PUBLICATIONS

New books that review recent discoveries reported in scattered journals serve as landmarks in the constant search for scientific truths. Progress is indicated whether a textbook coordinates the new facts of science or whether a book, written in less technical language, presents the gains already made in a fresh and appealing form. No attempt is made in the following list to be complete for obvious lack of space.

A new *Introduction to Genetics* has been written by Professors A. H. Sturtevant of California Institute of Technology and G. W. Beadle of Stanford University (Saunders). This is a modern text and in it the au-

thors break away from the traditional historical method of presenting Genetics, and, instead, approach the subject in a way that is both logical and convenient for teaching the subject. Incidentally this method makes the books particularly useful for self-education. Several chapters are devoted to evolution—Heterogeneous Populations, Polyploidy, Species Differences. A chapter, Genes and Phenotypes, brings genetics up to date.

"Stop and think about yourself" is the first sentence and paragraph in Amram Scheinfeld's vivid book, *You and Heredity* (Stokes). Many have attempted to reap the reward in the story possibilities of the discoveries of geneticists and their application to human betterment and understanding. This book has succeeded. Its scope is unusually great for one that presents the technical facts of genetics to the lay public; nevertheless, it covers the field in an exciting and graphic manner. By studied words and thought-provoking diagrams the story of man's heredity is laid bare. One can readily see that the evolution of man can not be considered complete if completeness implies perfection. In this unstable world there is need for a sane statement on the origin and present status of the human race. This is supplied. Amram Scheinfeld states, because human genetics is correlated with all other sciences dealing with human beings, it was necessary to seek further for information and counsel from physicians, sociologists, psychologists, and anthropologists. He was assisted in the genetic sections by Dr. Morton D. Schweitzer, geneticist of the Cornell University Medical School in New York City.

Previously not mentioned in these columns, but of great significance as a record of progress in the field of genetics and evolution of domesticated plants and animals, are the magnificent United States Department of Agriculture's Yearbooks for 1936 and 1937. Secretary Henry A. Wallace, himself a plant geneticist in his own right, says in the foreword: "The science of the quality of life as it passes from generation to genera-

tion is in many respects the greatest and youngest of all the sciences. While the art of plant and animal breeding is an old one, the science of plant and animal genetics dates only to 1900. So far as known this Yearbook is the first comprehensive effort to survey superior germ plasm in the leading plants and animals. The Yearbook shows how much we know and also how much more we should know but do not as yet. True, the science of genetics is still young and growing. I trust that the day will come when humanity will take as great an interest in the creation of superior forms of life as it has taken in past years in the perfection of superior forms of machinery. In the long run superior life forms may prove to have a greater profit for mankind than machinery."

These yearbooks will remain long as reference authorities for the history of our domesticated plants and animals; in short, their evolution from promising organisms to organisms of great usefulness through the medium of applied genetics. In the first volume, Dr. J. H. Kempton, botanist, Division of Genetics and Biophysics in the Bureau of Plant Industry, writes a lucid chapter on Heredity under the Microscope, describing the beginning of life from the time of fertilization. There are general statements covering unusual possibilities in breeding plants and animals and a history of the development of the science of genetics. Many of these statements are inspirational and should bring to the Department of Agriculture an enthusiastic group of students. The second volume continues the reports of the first. The subjects treated run from forest trees to fur-bearing animals. Of general interest is the chapter by E. N. Bressman and Gove Hambidge on Fundamentals of Heredity for Breeders. Robert Cook, the editor of the *Journal of Heredity*, presents a Chronology of Genetics from 1700 to the present time. An evaluation of the work of the men is given. The pictorial representation of the history is given in a Family Tree of Genetics; its roots lie in mathematics, plant and animal breed-



## ENTOMOLOGY

ing and cytology. Dr. A. F. Blakeslee, in a separate paper, writes a "Study in the Behavior of Chromosomes." In all, there are 65 chapters on plants and animals, many chapters dealing with more than one species of plant or animal. The comprehensive report is modestly presented merely as a progress report.

The modern trend in genetic research is clearly reflected in the emphasis given to such related fields as experimental embryology and biochemical nature of the cell and the gene. Bringing together a vast amount of this new material within the confines of one book, Dr. C. H. Waddington, fellow of Christ's College in Cambridge, England, has done American biologists good service. His book *An Introduction to Modern Genetics* (Macmillan) will be useful to the advanced student of genetics and to those philosophers of science who are interested in the theoretical side of biology. Dr. Waddington's special field is experimental and developmental embryology. This subject, a topic of immediate importance to those whose fields in genetics have been elsewhere, is given its share in

the book. The book is divided into five parts: Formal genetics, Genetics and development, Genetics and evolution, Genetics and human affairs, and The nature of the gene.

The 'tone' of Herbert Eugene Walter's new book on Genetics (Macmillan) may be stated in the words of his preface: "A proper orthodox textbook is expected to show some signs of solidity, permanence, and inevitable dryness, a somewhat difficult end in the present instance with the overwhelming flood of new discoveries and alignments characterizing genetics today. . . . It seems wise, therefore, to emphasize, particularly for the student beginning the subject, the *historical background* out of which the welter of modern genetics is arising, rather than to plunge him at once into the front-line trenches of research. . . ." Dr. Walter, now emeritus professor of Biology at Brown University, has entirely remade his old text that has passed through three editions. His efforts will be appreciated by those who are new to genetics. Unfortunately, the relationship of genetics to evolution is not featured.

## ENTOMOLOGY

By E. PORTER FELT

BARTLETT TREE RESEARCH LABORATORIES

### GENERAL

General entomology continues to command interest in a wide variety of fields. The amateur collector and the specialists in numerous groups are mostly concerned with securing additional material, the results appearing at irregular intervals in local lists and in monographic, frequently highly technical, works such as some of those cited below.

### INSECTICIDES

The call for insecticides better adapted to the present day divergent needs has resulted in recent years in extended studies of promising organic materials as well as inorganic compounds in the search for preparations

which would be as efficient or nearly as efficient as the widely used arsenate of lead, and, at the same time, less dangerous to domestic animals. These investigations naturally increased the interest in the physiology of insects, a phase reflected in the comprehensive volume on this subject noticed below. The relation of chemical structure and physiological effect on various insects is a closely related and attractive field of inquiry which has received much attention in recent years.

The last few years have been marked by notable advances in the use of the organic and relatively safe pyrethrum and rotenone preparations for the control of insects. The field



of organic and synthetic compounds is being explored for possible new toxic or repellent compounds.

The effect of radiant energy on insects and of varied and constant temperatures on their vital activities are other important fields which have been given some attention. The relation of particle size, especially of arsenicals, to toxicity has been carefully studied by several investigators.

#### **GOLDEN ANNIVERSARY REVIEW**

The golden anniversary of the American Association of Economic Entomologists was celebrated in the national meeting held at Columbus, O. Dec. 27-30, the five decades being discussed by entomologists who have been especially active in these various periods. The Entomological Society of America met at the same time and place and joined in this celebration since there is an intimate relation between general or systematic entomology and the economic fields.

The half century covered by this celebration has been a most productive one. The Hatch Act with its generous provisions for agricultural research and education throughout the United States has been a most effective stimulant to the development of economic or applied entomology. Fifty years ago entomology was given as a short course in relatively few institutions. The construction of a four-room building to be used entirely for entomology at the then Massachusetts Agricultural College was considered a distinct advance in a relatively unoccupied field. The department of entomology of that institution now occupies a large building especially designed to meet its purposes. Similar conditions obtained in those early days in several other states. Today there are well equipped entomological departments with adequate staffs at the Massachusetts State College, Cornell University, Ohio State University, University of Illinois, Iowa State University, and at the Universities of Minnesota and California.

The expansion and growth of the half century is indicated by the increase in membership of the Associa-

tion of Economic Entomologists from less than 30 at first to over 1,000 at the present, and the increase in economic entomologists, in those early days known mostly as state entomologists, from five or six with relatively inadequate staffs to the present-day highly efficient organizations in most of the states with at least several and in a number of cases ten or more associated scientists, some being extension entomologists and closely connected with the educational farm bureaus of their respective states. The Federal Division of Entomology, now the Bureau of Entomology and Plant Quarantine, has expanded during this half century from an organization of possibly ten scientists in the early days to one in which the scientists are listed by the hundred.

In the early days there were only a few general text books limited almost entirely to the pests of field and fruit crops. The output of books on economic entomology this year exceeds in numbers all that were available in the early days and covers, as will be noted below, widely diverse and specialized fields. Plant quarantine was unknown in 1888. Today the Federal Government and the various states have imposed restrictions designed to check, even if they do not prevent, the introduction and dissemination of new pests, many of which had become established prior to the establishment of quarantines. Medical entomology is now a well recognized branch of economic entomology. Books on forest entomology and insect pests of shade trees and household pests suggest some of the later ramifications of entomology. The attempts by Federal and state authorities to exterminate the gypsy moth and the European corn borer come within this period and at the present time eradication of the so-called Dutch elm disease, an infection principally carried by the European elm bark beetle, is being pressed by Federal and state authorities. Although the disease is the real killer, an important part of the problem is the control in the infected areas of this introduced elm bark beetle.

## ENTOMOLOGY

Housing conditions are so different from what they were in the earlier days that a National Pest Control Association has been organized, and within the last few years trained entomologists have rendered great assistance in putting this activity upon a more scientific basis. A most recent development was the appointment by the New York World's Fair organization of an entomologist to prevent the breeding of aquatic midges in bodies of fresh water on the Fair grounds.

The great advance in the last decade is also indicated by the four standard works which have appeared in revised editions, one being practically rewritten.

### JUVENILE OR POPULAR BOOKS

*Children of the Golden Queen* (Dutton) by Flora McIntyre, a children's book on the habits of the honey bee. *The Boy's Book of Insects* (Dutton) by Edwin W. Teale, a volume for the boy of high school age. *Grassroots Jungles, A Book of Insects* (Dodd Mead) by E. W. Teale. *Marvels of Insect Life* (McBride, N. Y. C.) by Edward Step, an American, one volume reprint of an English two-volume work. *The Wonder World of Ants* (Harcourt, Brace) by Wilfrid S. Bronson, a children's book on ants.

### PHILOSOPHICAL, HISTORICAL AND APPRECIATIVE WORKS

*Of Ants and Men* (Prentice-Hall) by Caryl P. Haskins, a philosophical comparison of social development. *History of American Beekeeping* (Collegiate Press, Ames, Iowa) by Frank C. Pellett, an historical narration. *Vernon Kellogg, 1867-1937* (Belgian American Educational Foundation, Inc.) a volume of appreciations of an entomologist as well as a great humanitarian.

### ECONOMIC BOOKS

*Destructive and Useful Insects*, 2nd ed., (McGraw-Hill) by C. L. Metcalf and W. P. Flint, largely rewritten. *Principles of Forest Entomology*, 2nd ed., (McGraw-Hill) by S. A. Graham, an important revision. *Field Crop*

*Entomology* (John Swift & Co.) by Don B. Whelan, a handy reference field book. *Meadow and Pasture Insects* (The Educators' Press, Columbus, O.) by Herbert Osborn, an excellent general work in a practically untouched field. *Medical Entomology with Special Reference to the Health and Well-Being of Man and Animals*, 3rd ed., (Macmillan) by William B. Herms, a complete revision of this important work. *Medical Entomology*, 2nd ed., (McGraw-Hill) by William A. Riley and Oskar A. Johannsen. *The Principles of Insect Physiology* (Dutton) by V. B. Wigglesworth, a digest of recent progress. *The Chemistry and Toxicology of Insecticides* (Burgess Pub. Co., Minneapolis, Minn.) by Harold H. Shepherd, a college text and reference book. *202 Common Household Pests of North America* (Hartnack Pub. Co., Chicago) by Hugo Hartnack, a practical volume on insects and other pests in dwellings.

### TECHNICAL WORKS

*Check List of the Lepidoptera of Canada and the United States of America, Part I, Macrolepidoptera* (Southern Calif. Acad. of Sciences) by J. McDunnough, a check list of names. *Food-plant Catalogue of the Aphids of the World Including the Phylloxeridae* (Me. Agr. Expt. Sta. Bul. 393) by Edith M. Patch. *The North American Bees of the Genus Osmia* (Ent. Soc. Wash. Mem. I) by Grace A. Sandhouse, a systematic account. *Keys to the Orders of Immature Stages of North American Insects* (Ann. Ent. Soc. Am. 32:267-278) by A. Petersen, a valuable guide to a general identification.

### PERSONNEL

Dr. Roger B. Friend has been appointed state entomologist of Connecticut and head of the Entomology Department of the Agricultural Experiment Station to succeed Dr. W. E. Britton deceased. Dr. P. N. Anand has been appointed assistant chief of the U. S. Bureau of Entomology and Plant Quarantine with special reference to research work. Dr. John T. Creighton, of the De-

## XVII. BIOLOGY

partment of Entomology, University of Florida, has been appointed consultant and advisor to Dr. Lee A. Strong, chief of the U. S. Bureau of Entomology and Plant Quarantine. Dr. Edwin C. Van Dyke, professor of entomology at the College of Agriculture, University of California, retired at the close of the last academic year.

### NECROLOGY

B. Preston Clark of Boston, Mass., a specialist on the hawk moths or Sphingidae, died Jan. 11. W. E. Britton, state entomologist of Connecticut

since 1901 and widely known because of his interest in all phases of insect life, died Feb. 15. Frederick W. Mally, a pioneer Texan entomologist, died May 7. Charles S. Banks, resident in the Philippines since 1900, died Nov. 8. He was a government entomologist for many years and was widely known in the islands. H. C. Fall, Tyngsboro, Mass., a noted coleopterist, died Nov. 14. Dr. Royal N. Chapman, recently appointed dean of the Graduate School of the University of Minnesota and a well known entomologist, died Dec. 2.

## BOTANY

By MARY MAXINE LARISEY

INSTRUCTOR, WELLESLEY COLLEGE

### PHYSIOLOGICAL RESEARCH IN GROWTH PROBLEMS

One of the major trends in physiological research in 1939 was a continuation of investigations in growth problems. Goodwin presented evidence for the presence of substances partially masking the activity of auxin in certain ether extracts, and also made a comparison of two quantitative *Avena* techniques in the determination of 3-indole-acetic acid. Gustafson, in a consideration of auxin as a cause of natural parthenocarp, found a higher content in parthenocarpic oranges, lemons, and grapes than in non-parthenocarpic varieties. Guthrie observed inhibition in bud growth of potato tubers with the vapor of the methyl ester of naphthaleneacetic acid. Lindner noted the effects of indole-acetic and naphthylacetic acids on the development of buds and roots in horse radish, while Mitchell and Stuart studied the growth and metabolism of bean cuttings subsequent to rooting with indole-acetic acid. Mitchell and Brunstetter reported colorimetric methods for the quantitative estimation of indole (3) acetic acid. Nagel noted morphogenetic differences between *Nicotiana glauca* and *N. Langsdorffii* as indicated by response to indole-

acetic acid. Thymann and Schneider investigated the relative activities of different auxins. Went considered the dual effect of auxin on root formation and conducted experiments on bud growth and, with White, experimented on the transport of auxin. Reynolds reported on the relations of plants to minute doses of inhibitive substances. Robbins and Schmidt conducted preliminary experiments on biotin. Smith and Romberg devised a method for the treatment of cuttings and roots of the pecan with root-inducing chemicals, and Weintraub proposed an assay method for growth promoting substances utilizing straight growth of the *Avena* coleoptile. Went worked on the transport of inorganic ions in polar plant tissues. Irvine compared the effects on primordial tissues of x-radiation and treatment with certain growth promoting substances. Zimmerman and Hitchcock investigated the activation of cinnamic acid by ultra-violet light and the physiological activity of its emanations and, with Wilcoxon, studied responses of plants to growth substances applied as solutions and as vapors.

Among those working on growth and development are Culpepper and Moon who noted the effect of temperature upon the rate of elongation

of the stems of asparagus grown under field conditions, and Galligar, Robbins and Schmidt, and White who reported on various experiments with excised roots and other plant tissues.

## GERMINATION AND DORMANCY

Problems in germination and dormancy were the subjects of investigation for Barton, Beattie, Boswell, and Thornton who were interested in storage; for Dunn, Smith, Toole and Hollowell who were concerned with moisture and temperature relations; for Burton who made scarification studies on southern grass seeds; and for Thornton who considered oxygen as a regulator of the dormancy of the potato. Miller reported on the synthesis of  $\beta$ (2-chloroethyl)-d-glucoside by potato tubers treated with ethylene chlorohydrin.

## ABSORPTION AND NUTRITION

Studies in absorption and nutrition were made by Arnon and Stout on the essentiality of certain elements in minute quantity for plants with special reference to copper; by Colwell and Baker on boron deficiency in soils; by Foster on the heavy metal nutrition of Fungi; by Gregory and Woodford on an apparatus for the study of oxygen, salt, and water uptake of various zones of the root; by Hurd-Karrar on the antagonism of certain elements essential to plants toward chemically related toxic elements; by Ketchum on the absorption of phosphate and nitrate by illuminated cultures of *Nitzschia closterium*, and on the development and restoration of deficiencies in the phosphorus and nitrogen composition of unicellular plants; by Warren and Mack on a foliar diagnostic study of the influence of soil on the action of fertilizers; by Trelease and Selsam on the influence of calcium and magnesium on the growth of *Chlorella*; by Wadleigh and Shive on the base content of corn plants as influenced by pH of the substrate and form of the nitrogen supply; and by Watts on the anatomical symptoms of nitrogen, phosphorus and potassium deficiencies in seedling hypocotyls of tomato.

## OSMOSIS AND PERMEABILITY

Osmosis and permeability were studied by Damon who, in an investigation of bioelectric potentials in *Valonia*, noted the effects of artificial sea waters containing LiCl, CsCl, RbCl, or NH<sub>4</sub>Cl; by Jaques who, in a study of the kinetics of penetration, observed the accumulation and exit of ammonia in light and darkness; and by Osterhout who, in examining the changes of apparent ionic mobilities in protoplasm, considered the influence of guaiacol on the effects of sodium and potassium in *Nitella*.

## PHOTOSYNTHESIS

Investigating problems in photosynthesis, Inman and Crowell examined the condition of chlorophyll in the leaf; McAllister reported on the chlorophyll-carbon dioxide ratio during photosynthesis; Neish in a study of chloroplasts presented views on their chemical composition and the distribution of certain metabolites between the chloroplasts and the remainder of the leaf; and Ross studied the phytylchromogen of protoporphyrin and pyridine.

## METABOLISM

In the field of metabolism, Wall, interested in the rôle of potassium in plants, sought the effect of varying amounts of potassium on nitrogenous, carbohydrate, and mineral metabolism in the tomato plant. Concerned chiefly with carbohydrate metabolism, MacFarlane studied the phosphorylation of carbohydrate in living cells, and Marsh and Wood prepared an introduction to the chemistry of cellulose. Several have been concerned with nitrogen and protein metabolism. Gaskell and Gilman investigated the rôle of nitrogen in fungous thermogenesis; Lugg considered problems in the extraction of protein from fresh leaves and made some partial analyses of whole proteins of leaves; Sideris, Krauss, and Young reported on the distribution of different nitrogen fractions, sugars and other substances in various sections of the pineapple plant grown in soil cultures and receiving either ammonium or nitrate salts; Steinberg and Bowling pro-



posed optimum solutions as physiological reference standards in estimating nitrogen utilization by *Aspergillus niger*; Chibnall prepared a book on protein metabolism in the plant; and Vickery and Pucher published another paper of the series on the metabolism of amides in green plants; stressing the mechanism of amide synthesis. Pucher, Wakeman, and Vickery also conducted investigations on organic acid metabolism of the buckwheat plant.

#### ENZYME STUDIES

Enzyme studies were made by Caldwell, Doebling, and von Wicklen on the influence of heavy water upon the activities and stabilities of the amylases of barley and malted barley, by Couch and Briese on the destruction of hydrocyanic acid by prunase and the influence of sugars on the reaction, and by Spoehr and Milner on starch dissolution and amylolytic activity in leaves.

#### RESPIRATION INVESTIGATIONS

Investigations in respiration included the work of Brown, who made suggestions for the use of Warburg respirometers in plant physiological investigations, Gerhardt and Ezell who proposed a method of estimating the volatile products liberated from stored fruit, and Krotkov who worked on carbohydrate and respiratory metabolism in the isolated starving leaf of wheat. Nelson contributed to the subject of ethylene production—its physiology, use and reactions in plants; Pratt and Williams noted the effects of panthothenic acid on respiratory activity; Stier and Newton observed changes in the rate of respiration of bakers' yeast during assimilation; and Vickery, Bradford, and Pucher studied the loss of carbon from excised rhubarb leaves during culture.

#### OTHER PHYSIOLOGICAL STUDIES

Protoplasm studies included the work of Marsland, concerned principally with streaming, and of Northen, interested in structure and effects of temperature. Plant constituents were the bases of investigations by An-

derson and coworkers, Edgecombe, Henry, Wadleigh and Shive. Blackie, Cowgill, and Rutzler discussed pigmentation problems.

Photoperiodism was the subject of discussion by Hammer and Naylor in reference to their work on responses of dill, by Knott on the effect of temperature, Neidle on the relation of nitrogen, Parker and Borthwick on the effect on development and metabolism, and Stout and Hoagland on the movement of salt as indicated by radioactive isotopes of potassium, sodium, and phosphorus absorbed by roots. Effects of radiation were noted by Flint and Moreland on lettuce seedlings, by Harter on the length of conidia in species of *Fusarium*, by Johnson on floral development of treated buds, and by Zahl, Koller, and Haskins on spores of *Aspergillus niger*.

Vitamins in relation to meristematic activity were discussed by Addicott, to germination of pollen grains and fungus spores by Cooper, and to plant nutrition by Robbins. Among those interested in toxicity were Commoner, Crafts and Rosenfels, Green, McCarthy, and King, Jones, and Setterstrom, and Zimmerman. The relation of temperature to hardness was investigated by Carroll and Welton, Harvey, and Shirley and Meuli.

Barr discussed the application of the ceric sulphate method in analyzing carbohydrates in plant tissues, Coleman and Gardner dealt with various methods of determining presence of HCN. Emmert made a report on the determination of ammonia and amide nitrogen in connection with the chlorate method for nitrogen in plant tissues. Moon was concerned with carotene extraction, and Shull and Shull worked out the determination of constants for curves of water absorption by dry organic substances.

Loomis and Shull produced a revision of the first part of their *Methods in Plant Physiology* under the heading *Experiments in Plant Physiology, A Laboratory Textbook*. Meyer and Anderson also published *Plant Physiology*, a textbook for colleges and universities. A bibliography of references to the literature on the minor

elements and their relation to plant and animal nutrition was prepared by Willis.

### GENETICS AND CYTOLOGY

Maize has continued to be a favorite subject for research in plant genetics. Anderson made a study of translocations involving chromosome-8; Emerson investigated a Zygotic lethal in chromosome-1 and its linkage with neighboring genes; Rhoades and Rhoades worked with factors in chromosome-10; and under the auspices of the Maize Genetics Cooperation, six short papers on linkage were published by Hayes, Chang, and Singleton. Other workers included Jones, Sprague, and Wu Shao Kwei.

Alfalfa was another important subject. Brink, Keller, and Eisenhart observed the differential survival of various strains under an ice sheet; Cooper studied artificial polyploidy; Lepper investigated the inheritance of flower color; and Odland and Lepper reported a crinkle leaf mutation. In the Solanaceae, Becker made inheritance studies in a hybrid between *Solanum demissum* and *S. tuberosum*, and with Krantz and Fineman discussed incidence and inheritance of pollen sterility in the potato. Holmes proposed *Lycopersicum chilense* as a possible source of disease resistance, and Lesley and Lesley investigated unfruitfulness in tomato caused by male sterility.

Other workers in various fields included Bell on the date of ear emergence in barley, Cochran on a chlorophyll deficient pimiento, Cook and Joyner on Neanthe, Dale and Rees-Leonard on concurrent plastid and anthocyan variegation in *Salpiglossis*, Emerson on *Oenothera organensis*, Honing on Canna crosses, Kearney and Webber on hybridism in cotton, Nijdam on flower color in *Trifolium pratense*, Poole and Grimball on the inheritance of new sex forms in *Cucumis melo*, Post on a new unstable gene in *Coleus*, Robertson on barley, Stebbins and Jenkins on apospory in *Crepis*, and Wetmore and Delisle on polymorphy in *Aster*.

Among papers of a more general nature are those of Anderson on re-

combination in species crosses, Anderson and Ownbey on the genetic coefficients of specific difference, Blakeslee on the service of chemistry to plant breeding, Dahms and Fenton on breeding for insect resistance, Graves on breeding trees for disease resistance, Goodspeed and Uber on radiation and plant cytogenetics, and Harvey on hereditary variation in plant nutrition.

Research on the effects of colchicine continued. O'Mara made observations on its immediate effects; Rau made preliminary investigations on its relation to intergeneric hybridization; and Sears reported on amphidiploidy induced by its application.

Cytological studies included those by Baldwin on the chromosomes of the Diapensiaceae from the standpoint of phylogeny, by Beal on *Calochortus* in relation to classification, by Coonen on the chromosomes of *Ranunculus*, by Franco on *Coffea* in regard to stomata number, Middendorf on *Phaseolus* and *Zea* in dormancy investigations, by Sears on polyploidy in wheat, by Whitaker and Jagger on *Lactuca*, and by Wolcott on the Hepaticae.

### ECOLOGY

Discussions on plant associations and climax problems were offered by Cain and Conard. Weaver and Houghen reported on the effect of frequent clipping on plant production in prairie and pasture, and similar studies were made in connection with the effect on underground food reserves of prairie grasses by Bukey and Weaver, and on the density and yield of black grama and tobosa grass by Canfield. Weaver and Albertson noted major changes in grassland as a result of continued draught, and Weaver and Hansen reported an increase of *Sporobolus cryptandrus* in pastures of eastern Nebraska. Hansen alone commented on the rôle of fire in land use and management, and also wrote on the postglacial vegetation of the driftless area of Wisconsin. Heyward studied the relation of fire to stand composition of longleaf pine forests, and a postglacial forest in central

## XXII. BIOLOGY

New York was the subject for study by McCulloch.

Other ecological endeavors were an expedition to Glacier Bay, reported by Cooper; a phytosociological study of a cypress-gum swamp in southeastern Louisiana by Hall and Penfound; pollen analyses by bogs by Hansen; hydrogen-ion concentration of soil in relation to flora by Hodgman; infra-red photography as an aid in ecological surveys; soil changes during natural succession after abandonment reported by Judd and Weldon; vegetation and succession on scoria and clay buttes on western North Dakota by Judd and by Whitman and Hansen; the annual accumulation and creep of litter and other surface materials in the chaparral of the San Gabriel Mountains of California by Kittredge; vegetational features of the Columbia River Gorge with special reference to asymmetry in forest trees; studies of root systems of trees by MacDougal; relations of climatic and vegetation types in Neuvo Leon, Mexico by Muller; succession on granite rock in eastern North Carolina; a phytosociological analysis of a tupelo-gum forest near Huntsville, Alabama by Penfound and Hall; study of vernal pools by Purer; annual vegetational fluctuations in California by Talbot, Biswell, and Hormay; geographical affinities of the flora of Ohio; use of tensiometers for measurement of soil moisture by Wallihan; and the constancy and frequency of grassland species of fungi with special reference to soil types.

### MORPHOLOGY AND ANATOMY

Life history studies included work on the embryogeny of *Sequoia sempervirens* and *S. gigantea* by Buchholz; spore production in *Regnellidium* by Chrysler and Johnson; a new type of embryogeny in the conifers by Cook; development of the megagametophyte in *Erythronium albidum* by Cooper; seed development of *Lobelia amoena* by Hewitt; pollination and its influence on the behavior of the pistillate flower in *Vallisneria spiralis* by Kausik; sexual dimorphism in *Carex picta* by Martens;

a study of the morphological and cytological development of the sporophylls and seed of *Juniperus virginiana* by Mathews; and sexual reproduction of *Ranunculus ficaria* by Metcalfe. Sinnott made a developmental analysis of the relation between cell size and fruit size in cucurbits, and Tukey and Young conducted histological studies of the developing fruit of the sour cherry.

Leaf studies included an examination of the positions in *Ailanthus altissima* in relation to the Fibonacci series by Davies, work on the anatomy of spruce needles by Marco, and an investigation of the relations between tissue organization and vein distribution in dicotyledonous leaves by Wylie. Bliss discussed tracheid elements in the ferns, Cross reported on the morphology of the deciduous shoot of *Taxodium distichum*, and Garland presented a microscopic study of coniferous wood in relation to its strength properties. Phloem elements received the attention of Abbe and Crafts in a study of pine and other coniferous species, of Crafts in determining the relation between structure and function of the phloem, and of Struckmeyer and Roberts on the correlation between phloem development and flowering. Bailey contributed to the knowledge of the microfibrillar and microcapillary structure of the cell wall. Farr and Sisson made observations on the membranes of epidermal cells of the *Avena* coleoptile.

### PALEOBOTANY

Andrews prepared notes on the fossil flora of Yellowstone National Park with particular reference to the Gallatin region; Arnold proposed a new species—*Lagenospermum imparirameum*—from a seed bearing fructification from the Mississippian of Pennsylvania and Virginia, and made further observations on fossil plants from the Devonian of eastern North America; Brown reported on some fossil plants belonging to the Isoetales and, with Houldsworth, remarked on the fruit of *Trapa* (?) *microphylla* Lesquereux; Cribbs proposed a new genus and species—



*Cauloxylon*—from the Reed Springs formation of southwestern Missouri; Lohman wrote of Pleistocene diatoms from Long Island; Reed discussed the structure of some Carboniferous seeds from American coal measures; and Schopf proposed a new species of the Anglica group of *Medullosa-Medullosa distelica*.

### TAXONOMY

Taxonomic research was carried on in the following orders and families of higher plants: Acanthaceae (Leonard); Anacardiaceae (Barkley, Reed); Annonaceae (Diels); Apocynaceae and Asclepiadaceae (Woodson); Avicennaceae (Moldenke); Bombacaceae (Record); Boraginaceae (Johnston); Celastraceae (Lundell); Cruciferae (Rollins); Ericales (Camp); Eriocaulaceae (Moldenke); Euphorbiaceae (Murrill, Wheeler); Gramineae (Blomquist, Fosberg, Porter, Weatherwax); Hippocrateaceae (Smith); Lamiaceae (Murrill); Lauraceae (Allen); Leguminosae (Fassett); Melastomaceae (Gleason); Menispermaceae (Diels); Myrsinaceae (Walker); Myrtaceae (Merrill); Orchidaceae (Bingham, Schweinfurth, Williams); Palmales (Bailey, Bombard, Cook, Doyle); Pandanaceae (Merrill, Perry); Poales (Chase, Hitchcock, Swallen); Polygonaceae (Murrill); Rutaceae (Swingle); Sapotaceae (Record); Saxifragaceae (Fosberg); Scrophulariaceae (Pennell); Scutellariae (Epling); Verbenaceae (Moldenke); Violaceae (Patterson, Spotts). The following genera were monographed, revised, or otherwise critically studied: *Abies* (Rehder); *Actinochaeta* (Barkley and Reed); *Agropyron* (Daubenmire); *Amelanchier* (Nielson); *Ananas* and *Pseudananas* (Smith); *Arctostaphylos* (Wieslander); *Baptisia* (Larisey); *Besleria* (Morton); *Brodiaea* (Hoover); *Carex* (Stacey); *Ceanothus* (Howell); *Chorizanthe* (Goodman); *Clidemia* (Gleason); *Commelina* (Pennell); *Cyperus* (O'Neill); *Dicliptera* (Leonard); *Draba* (Hitchcock); *Delphinium* (Ewan); *Eleocharis* (Svenson); *Ephedra* (Cutler); *Erythrina* (Krukov); *Githopsis* (Ewan); *Hedeoma* (Epling); *Helianthemum* (Schreiber);

*Ilex* (Merrill); *Jasminum* (Kobuski); *Lesquerella* (Rollins); *Loniciera* (Camp and Monachino); *Nama* (Hitchcock); *Oenothera* (Munz); *Panicum* (Schmoll); *Pentstemon* (Clokey and Keck); *Physaria* (Rollins); *Ribes* (Darlington and Culver); *Salvia* (Epling); *Sequoia* and *Sequoiadendron* (Bucholz); *Sorbus* (Jones); *Tetramerium* and *Henrya* (Happ); *Teucrium* (Epling); *Utricularia* (Rossbach); *Vernonia* (Steyermark); *Zea* (Manglesdorf and Reeves).

Included in work on the lower plants are the papers by Coker on a saprophytic fungoid alga, and by Drouet, Hollenberg, McInteer, Taft, and Tiffany on various lines of investigation in the algae.

Among the discussions of Fungi, those of the following workers are outstanding: Bachkus, on conidial fertilization in *Neurospora sitophila*; Bessey on iso-planogametes in *Blastocladia*; Cash on *Discomycetes* and *Hysteriales*; Couch on *Conidiobolus*; Diehl on *Dothichloe*; Faull on *Calyptospora*; Jenkins on *Mycosphaerella berkeleyi* and *Taphrina*; Karling on *Rhizophidium*; Lindegren, Beanfield, and Barber on *Neurospora*; Mains on *Cordyceps* and *Maravalia*; Martin on fungi from Panama and Colombia; McLarty on *Pseudolpidium*; Mix on *Taphrina*; Murrill on Oligocene Island fungi; Rogers on *Hypochnus*; Shanor on *Olpidiopsis* and *Pseudolpidium*; Smith on *Mycena*; Sparrow on Chytridiales; Sprague on Fungi Imperfecti; Tiffney on *Saprolegniaceae*; and Wolf on *Phyllosticta viridis*. Gray, Hagelstein, Kambly, and Raper reported on problems in the *Myxomycetes*, and Lamb was interested in lichens.

Chief among those working on the Bryophytes were Anderson, Bartram, Blomquist, Bodenbergh, McCanaha, Pagan, Sharp, Sture, Svihla, Walker, and Wareham; and on the Pteridophytes Clausen and Smith, Maxon, Morton, Meyer, Pfeiffer, Schaffner, and Wiggins.

In general floristic studies are included a flora of the Charleston Mountains by Clokey; a consideration of new California plants by East-



## XXII. BIOLOGY

wood; a continuation of Virginia flora by Fernald; a report of a collection of Douglas' western American plants by Howell; new phanerogams from Mexico by Johnston; studies in Mexican and Central American plants by Lundell; contributions toward a flora of Alaska by Porsild; a number of new species, varieties, and combinations from the Arnold Arboretum collections by Rehder; a flora of Costa Rica by Standley; and contri-

butions toward a flora of Panama by Woodson and Seibert.

In addition to those listed herein, many new species, varieties, and forms have been described, and taxonomic work of a more general nature has been carried on. Collecting expeditions have as usual been sponsored by various institutions, and major projects of long standing have been continued with promise of early publication.

## ECONOMIC BOTANY

By H. K. HAYES

PROFESSOR, UNIVERSITY OF MINNESOTA

### ECOLOGY IN AGRICULTURE

Hanson, (*Ecology* 20: 111-117, 1939) emphasized some of the uses that can be made of ecology in relation to the production of crop plants. He called attention to the important contributions of ecology to economic problems and described in some detail the difficulties that have been faced in recent years in northwestern North Dakota, largely as a result of expanded crop acreages during the World War, to increase wheat production and the unfavorable conditions since 1930 caused by a combination of drought, rust, insect infestations and low prices. Hanson stated the well-known truth that "permanent agriculture must be in adjustment with the environment" and emphasized the viewpoint that a properly planned program for western North Dakota will mean restriction of wheat to the best land, more livestock, greater water conservation, more grass and feed reserves, and "increased use of the ecological point of view in planning so as to secure greater stability and higher standards of living."

### GRASS CULTURE AND RANGE IMPROVEMENT

Agricultural literature in recent years contains many more references to grass than formerly, probably due largely to the work of the Soil Conservation Service and the crop adjustment program, and a growing appre-

ciation of the importance of grass in a system of permanent agriculture. Savage (*U.S. Dept. Agr. Cir.* 491, 1939) discussed grass culture and range improvement in the central and southern Great Plains with particular reference to the reestablishment of pasture grasses on cultivated land and in depleted pastures. On cultivated land where it is desirable to reestablish grass, it seems advisable, in order to overcome a part of the hazard of wind erosion, to grow first a close drilled crop like sudan grass or sorghum and then make grass seedings on land protected by stubble. Sudan grass appears especially desirable for this purpose, leaving the stubble eight to 12 inches high. The relative desirability of various grasses, including blue grama, buffalo grass and other native and introduced grasses, are presented in some detail. The heritable variability in these grasses is emphasized and the possibilities of improvement by selection and hybridization seem very great.

Black grama is described by Campbell and Crafts (*U.S. Dept. of Agr. Leaflet* 180, 1939) as the most important forage grass on 89,000,000 acres of semi-desert grasslands in Arizona, New Mexico, southwestern Texas and southern Utah. The grass is nutritious and relished at all times during the year. Because of these characteristics it often has been

grazed too heavily, and today few pure stands are left.

Black grama reproduces successfully by tillering and runners, proper utilization encouraging this reproduction but too heavy grazing leading to less satisfactory spread. The writers emphasize two cardinal principles—(1) utilization should at no time be heavier than proper and (2) the herd size should be kept reasonably constant. Black grama is somewhat better adapted for grazing by cattle and horses than by sheep for the tendency with sheep is to injure the grass by too close grazing.

Stoa and Hanson (*North Dakota Agr. Exp. Sta. Circular 64, 1939*) described the characteristics and desirability of various grasses and legumes for pasture and hay purposes in North Dakota. They say brome grass, crested wheat grass, slender wheat grass, yellow and white sweet clover and alfalfa are the most desirable grasses for pasture, and hay and list oats, winter rye, millet and sudan grass as valuable supplementary emergency hay and pasture forages.

Brome grass, *Bromus inermis*, has somewhat less ability to survive under conditions of drought than crested wheat grass, *Agropyron cristatum*, but in areas and years of sufficient rainfall outyields crested wheat. The finely branched and close feeding root system of crested wheat is an important factor in its ability to withstand drought. Slender wheat grass, *Agropyron pauciflorum* or *tenerum*, a native of North Dakota, may be included in pasture mixtures to advantage because of its rapid growth in early years. Western wheat grass, *Agropyron smithii*, is a desirable grass in the pasture mixture because it stands grazing well and spreads rapidly. It is especially valuable for winter grazing because it is palatable and nutritious when dry.

#### DEVELOPMENT OF NEW USES OF CROP PLANTS

Senate Document No. 65, 1939 is a report of the survey made by the Department of Agriculture relative to four regional laboratories, one in each major farm producing area. The east-

ern laboratory was placed in the Philadelphia area, the northern laboratory at Peoria, Ill., the southern laboratory in New Orleans, and the western laboratory in the San Francisco Bay area. The four laboratories, each dealing with surplus commodities of its region, have been organized to find new industrial uses for surplus commodity crops. A comprehensive summary is included of the present major lines of research under way with cereal crops, cotton and fiber crops, oil seeds and crops, fruits, vegetables and nuts, root crops, sugar crops, tobacco, forage crops and forest products. Suggested lines of new research leading to a more satisfactory use of surpluses are presented in detail for those crops that are largely responsible for the surplus commodity problem. It is believed that the contemplated lines of research will yield "great benefits to agriculture and to the whole community."

#### PLANTS USED BY THE ESKIMO FOR FOOD

Anderson (*Jour. Amer. Soc. Bot.* 26: 714-16, 1939) summarized the results of studies made in 1938 during a visit to the Eskimo villages of northern Bering Sea and Arctic Alaska. The information for the most part was obtained directly from the Eskimos themselves. A list is included of 40 native plants used for food. Various methods of food preparation are employed. Some are eaten raw, as we eat celery and lettuce. Some are simply scalded. Another method is to use scalding or cold water and allow fermentation to take place before eating. A common method is to immerse the plant material in oil to preserve for winter use.

A detailed summary is given of the uses made of the native species. Two important food plants belonging to the Polygonaceae are *Oxyria digyna* (L.) Hill and *Rumex arcticus* Trautv. The leaves are eaten fresh, soured, boiled or in oil. Three species belonging to the Ranunculaceae are utilized. *Anemone narcissiflora*, L. is used as we use cress, also soured or prepared in oil. It is called coepoctac when prepared in oil with other salad

greens and beaten to a creamy consistency. When frozen it is claimed to be the original Eskimo cream.

Berries eaten fresh or preserved in oil include red currants (*Ribes triste* Pall), the crowberry, *Empetrum nigrum* L. used to a limited extent, bunch berries, *Cornus canadensis* L. and *Cornus suecica* L. and red berries often called strawberries belonging to *Rubus arcticus* L. which intergrades with *Rubus acaulis* Michx. The most widely distributed berry is the cloud berry or baked-apple berry, *Rubus Chamaemorus* L. The blueberry, *Vaccinium uliginosum* L., is one of the most important berries.

Seeds of the beach pea, *Lathyrus maritimus*, are roasted and used in making coffee. The dried leaves of *Potentilla fruticosa* L. are used for tea at Nome, while Labrador tea, *Ledum decumbens* (Ait.) Lodd., occurs all over the tundra and is used generally for tea.

#### EDIBLE SOYBEANS

Lloyd and Burlison (*Ill. Agri. Exp. Sta. Bul.* 453, 1939) described 18 varieties of edible soybeans that have been tested rather extensively from 1935 and 1938. Seed was sent to a considerable number of home gardeners throughout Illinois and tests were made also by market gardeners and canners and by the agricultural experiment station. Varieties are available for a wide range of adaptation from northern United States to the southern states. In trying soybeans for the home garden it is important to obtain a variety adapted to your locality and length of growing season. These edible varieties are desirable for eating in the green state and can be shelled by pouring boiling water over the green pods and letting the pods stand in hot water five minutes before draining.

For use as green shelled beans in the home garden, harvesting may begin as soon as the beans approach full size and the pods appear well filled, and a steady succession of beans may be expected over a period of four or five weeks. The growing of varieties with different dates of maturity will

increase the length of the harvesting season. Edible soybeans appear to be a very desirable addition to the home vegetable garden.

#### THE ORIGIN OF INDIAN CORN

Mangelsdorf and Reeves (*Texas Agr. Exp. Sta. Bul. No. 574*, 315 pp. 1939) have presented a review of previous theories regarding the origin of maize and have given new evidence from comprehensive cytogenetic studies of maize, *Zea mays* L. and two related genera, *Euchlaena* and *Tripsacum*. Their conclusions are based on all of the evidence available. They visualize maize as a wild pod corn with prominent glumes enclosing the seed that on the South American continent originated from a remote Andropogonaceous ancestor that gave rise to a single species, *Zea mays* L., and on the North American continent to a more variable genus, *Tripsacum*. The naked corn, without each kernel being enclosed in glumes, is believed to have arisen by mutation from pod corn and to have been perpetuated by selection. Later in Central America the two genera, *Zea* and *Tripsacum*, came into contact on an extensive scale and, although hybridization was difficult, the opportunities for crossing were very great. The writers believe that a hybrid between these two genera, by repeated backcrossing to maize, resulted in the transfer of four fairly large segments of chromatin and several smaller ones from *Tripsacum* to *Zea* and the production of a new maize-like plant with two essential characters of *Tripsacum*, covered seed and brittle rachis, which enabled the new plant, subsequently called *Euchlaena* or teosinte, to survive in the wild.

Much of the genetic diversity of maize is explained by hybridization of *Zea* with *Tripsacum* and later with *Euchlaena*, leading to the transfer of some *Tripsacum* genes to maize that were responsible for the development of divergent types of corn, including pointed pop corns, the dent corns and the long, slender straight-rowed flint and flour corns which are not represented in Peruvian pottery.



DISEASE RESISTANCE IN  
VEGETABLES

Rieman (*Annual Rept. Canadian Seed Growers' Assoc. 1938-39*, pp. 60-63) summarized some of the accomplishments in the production of disease resistant varieties of vegetables during the last 25 years. He emphasized the advantages of disease resistance whenever this method of control is possible. Such control can be obtained by breeding varieties that combine resistance to particular diseases with other desirable characters through the application of mendelian principles. In 1914, from a study of lists of varieties of vegetables offered by the seed trade, less than a dozen of resistant varieties were listed by two leading American vegetable seed houses and most of these proved of doubtful value. In 1939 over 80 resistant varieties were listed and 20 or more were recognized as leading varieties by the seed trade. These 80 varieties included two varieties of asparagus resistant to asparagus rust, three varieties of snap beans resistant to mosaic and two resistant to bean rust, 10 varieties of cabbage resistant to cabbage yellows, one variety of celery resistant to *Fusarium* wilt, six varieties of sweet corn resistant to Stewart's bacterial wilt and two resistant to corn ear worm, nine varieties of lettuce resistant to brown blight, three resistant to downy mildew, and two resistant to tip burn, two varieties of cantaloupe resistant to powdery mildew, 29 varieties of peas resistant to *Fusarium* wilt, two varieties of spinach resistant to mosaic and seven varieties of tomatoes resistant to *Fusarium* wilt.

The far-reaching importance of disease control in vegetables is emphasized by a few illustrations given in greater detail. The yellow disease of cabbage is widespread from Iowa eastward to New Jersey. Adequate control in all regions has been maintained through the use of resistant varieties for a period of over 20 years. In the Imperial Valley in California the brown blight disease of lettuce has been controlled through the use of resistant varieties developed during the last 15 years. Complete crop

failures in canning peas were frequent in Wisconsin due to *Fusarium* wilt, the organism causing the disease now widespread in Wisconsin. The disease has been completely controlled through the use of resistant varieties.

Rieman stated that the method of control involved four important steps—(1) the recognition of disease symptoms and the identification of the causal organism, (2) the isolation of fertile resistant breeding stocks, (3) the development of true-breeding disease resistant varieties through crossing and selection, and (4) the production and distribution of pure high quality seeds of the resistant varieties in commercial quantities.

DROUGHT RESISTANCE IN  
SWEET CORN

Haber (*Iowa Agr. Exp. Sta. Research Bul. 243*, 1938) reviewed the literature dealing with laboratory methods of studying drought resistance in plants and presented a study of drought resistance in inbred lines of sweet corn. As a result of several years of natural drought, inbred lines were available for the study, some of which were relatively much more resistant to drought than others. These could be differentiated in a laboratory test into resistant and susceptible groups by exposing 20-day-old seedlings to high temperatures and low humidity. Exposures for five hours to a temperature of 55°C caused the death of most of the seedlings of susceptible lines while seedlings of resistant lines survived the same temperatures for a period of six hours. Such a method allows the breeder to select resistant lines under controlled conditions without waiting for unfavorable natural conditions.

THE BREEDING OF FOREST  
TREES

Johnson (*Forestry Chron.* 1939) described a new research program for forest-tree improvement consisting of cooperative investigations by the Canadian National Research Council and the Dominion Forest Service. He also included a list of institutions in United States, Sweden, Denmark and Germany where definite programs of



forest tree breeding have been established. The work in Canada to date has included the production of hybrids between various species in *Populus* and in *Picea*, cross pollinations in *Pinus* species and in *Tilia*. Colchicine treatment of seeds of 12 genera and 27 species of forest trees indicate that the treatment is highly effective in the production of polyploids. Studies of the value of plant hormones in vegetative propagation are being made also.

The article by Johnson is of general interest as he outlines methods of breeding in considerable detail with particular respect to the problem of forest-tree improvement. Because of the long period of time between generations, it seems probable that a logical first step is the utilization of hybrid vigor of the first generation hybrid. When a desirable hybrid is available, vegetative propagation, when feasible, seems the most efficient method of utilizing hybrid vigor. In some cases, when vegetative propagation is impossible practically, large scale crossing to meet the demands of hybrid production may be feasible.

By doubling the chromosome numbers of wide crosses, fertile and true breeding forms may be obtained. Johnson says: "The new colchicine method of inducing chromosome doubling makes the production of such forms relatively easy in many species."

#### CHEMISTRY IN RELATION TO PLANT BREEDING

Blakeslee (*Amer. Jour. Bot.* 26: 163-172, 1939) summarized some of the possibilities of the use of chemical substances in the control of life processes with particular respect to the use of colchicine which has been used extensively during the last two years as a means of doubling chromosome numbers in plants. Colchicine occurs in the seed and corm of *Colchicum autumnale*, the corm containing as much as 0.4 per cent by dry weight. A concentration of 0.4 per cent in water solutions has induced doubling of chromosome number in *Datura* and one-thousandth of this concentration will induce chromo-

some doubling in *Portulaca*. Fourteen families containing 39 species and several varieties within species were listed as having been doubled in chromosome number by the use of colchicine.

The reproductive cell of plants contains  $n$  chromosomes or half the number in the fertilized egg or mature plant. Many species of plants occurring in nature are multiple diploids, i.e., they contain a higher multiple of the fundamental or  $n$  chromosomes of the basic species but chromosome pairing occurs as in a diploid with a  $2n$  chromosome number. Familiar examples are wheat and oats with  $21n$  chromosomes although the basic species contained  $7n$  chromosomes. It seems that species with the higher chromosome number are more widely adapted than those with the basic lower number of the wild ancestor. Blakeslee described a cross in tobacco species between *Nicotiana glutinosa* and *N. sylvestris* which was highly sterile. An induced fertile multiple diploid, with twice the chromosome number of the two parent species, was obtained by the use of colchicine. Sears (*Jour. Heredity* 30: 38-43, 1939) has recorded the development of multiple diploids in crosses between the two genera *Triticum* and *Aegilops* by treating the germinating seeds of the cross by immersing in an aqueous solution of colchicine for about 24 hours. Blakeslee emphasized the value of such double diploids, which may be expected to breed relatively true, as a means of combining in a single species the desirable characters of two or more species. Such species should have the hybrid vigor that is found so frequently in species crosses.

In some cases the chromosome number of a species has been doubled from the  $2n$  or diploid condition to the  $4n$  condition, the new form containing twice the chromosome complement of the parent. Such tetraploid ( $4n$ ) plants show frequently an increase in leaf and flower size, and it seems probable that species of this type may be obtained that excel in flower size, plant vigor, and in ornamental value.

Haploid species have occurred in

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

nature, and by the use of colchicine diploid forms that breed true have been induced experimentally. If a method could be obtained of producing haploids experimentally it would be possible to produce pure breeding forms from heterozygous types without the necessity of many years of

self pollination, the method now used to produce the inbred lines of corn that are used in the production of hybrid seed for commercial growing. Probably most students of economic botany know that the hybrid method of seed production is now being used extensively in the corn belt.

## PERIODICAL PUBLICATIONS

---

*American Botanist*

Indianapolis, Ind.

*American Journal of Botany*

Botanical Society of America, Connecticut College, New London, Conn.

*American Naturalist*

Grand Central Terminal, New York City.

*Annals of the Entomological Society of America*

Columbus, O.

*Botanical Gazette*

5750 Ellis Ave., Chicago

*Botanical Review*

Botanical Garden, New York City.

*Ecology*

Lancaster, Pa.

*Journal of Economic Entomology*

College Park, Md.

*Journal of Experimental Zoology*

36th Street and Woodland Ave., Philadelphia.

*Journal of Mammalogy*

American Museum of Natural History, New York City.

*Journal of Morphology*

36th Street and Woodland Ave., Philadelphia.

*National Horticultural Magazine*

American Horticultural Society, Washington, D.C.

*Quarterly Review of Biology*

Mount Royal and Guilford Aves., Baltimore, Md.

*Scientific American*

24 West 40th Street, New York City.

*Yale Journal of Biology and Medicine*

New Haven, Conn.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

---

ACADEMY OF NATIONAL SCIENCES OF PHILADELPHIA, Logan Sq., Philadelphia, Pa.

AMERICAN ASSN. OF ECONOMIC ENTOMOLOGISTS, Amherst, Mass.

AMERICAN ASSN. OF MUSEUMS, Smithsonian Institution, Washington, D.C.

AMERICAN MICROSCOPICAL SOCIETY, Kansas State Agricultural College, Manhattan, Kan.

AMERICAN MUSEUM OF NATURAL HISTORY, 77th St. and Central Park W., New York City.

AMERICAN NATURE ASSN., 1214 Sixteenth St., Washington, D.C.

AMERICAN NATURE STUDY SOCIETY, 5540 Pershing Ave., St. Louis, Mo.

AMERICAN ORNITHOLOGISTS' UNION,

1939 Biltmore St., N.W., Washington, D.C.

AMERICAN PHYTOPATHOLOGICAL SOCIETY, Bureau of Plant Industry, Washington, D.C.

AMERICAN SOCIETY OF NATURALISTS, Brown University, Providence, R.I.

AMERICAN SOCIETY OF ZOOLOGISTS, Princeton University, Princeton, N.J.

BOSTON SOCIETY OF NATURAL HISTORY, 234 Berkeley St., Boston, Mass.

BOTANICAL SOCIETY OF AMERICA, Connecticut College, New London, Conn.

ENTOMOLOGICAL SOCIETY OF AMERICA, (Clarence H. Kennedy, Editor), Columbus, Ohio.

## XXII. BIOLOGY

- |  |  |
|--|--|
| EUGENICS RESEARCH ASSOCIATION,<br>Cold Spring Harbor, New York.                          | NEW YORK ZOOLOGICAL SOCIETY, 90<br>Broad St., New York City.                                 |
| FIELD MUSEUM OF NATURAL HISTORY,<br>Roosevelt Road and Lake Michigan,<br>Chicago, Ill.   | PALEONTOLOGICAL SOCIETY OF AMERICA,<br>American Museum of Natural History,<br>New York City. |
| MUSEUM OF THE COMPARATIVE ZOOLOGY,<br>Cambridge, Mass.                                   | REPTILE STUDY SOCIETY OF AMERICA,<br>INC., 536 E. 84th St., New York<br>City.                |
| NATIONAL ASSN. OF AUDUBON SOCIETIES,<br>1775 Broadway, New York City.                    | UNITED STATES NATIONAL MUSEUM,<br>Tenth and Constitution Ave., Washington,<br>D.C.           |
| NEW YORK MICROSCOPICAL SOCIETY,<br>American Museum of Natural History,<br>New York City. |  |

## DIVISION XXIII

### MEDICAL SCIENCES

#### MEDICINE, PHYSIOLOGY, AND PATHOLOGY

BY MAX TRUBEK

ASSOCIATE VISITING PHYSICIAN,  
BELLEVUE HOSPITAL, NEW YORK

---

##### GENERAL

During 1939 there was a widespread application of newly developed chemotherapeutic agents chiefly in the field of sulfanilamid related compounds. Improvement in these drugs tending toward greater safety and greater effectiveness are constantly being sought and their usefulness also boldly tried in diseases which previously have resisted all other forms of treatment. Advances were also made in the isolation, purification, and synthetization of vitamin substances and endocrine products and their usefulness increased in controlling effectively those deficiency states in which certain essential substances are lacking. The policies of the Federal Government toward the control of medical practice have been somewhat more conciliatory during this past year and may eventually be compromised with the principles of procedure acceptable to the American Medical Association.

##### CHEMO-THERAPY

**Sulfapyridine.**—Modification of the original drug, sulfanilamid, has been constantly sought not only because of the toxicity of the drug to certain patients but because of its inability to control effectively infections due to organisms other than those in which sulfanilamid is useful, for example, infections due to hemolytic streptococcus, gonococcus and men-

ingococcus. Sulfapyridine was devised chiefly to combat infections due to the pneumococcus but its usefulness has been greatly extended by clinical trial in other diseases so that the application of this newer substance has, during the past year, probably been more widespread than the original drug. A further improvement in the form of soluble sodium sulfapyridine has been devised for both oral and intravenous use thus greatly enhancing its application because of the frequent gastric intolerance to sulfapyridine itself when taken by mouth. In spite of all the modifications one must still be constantly on the alert for toxic manifestations in individual patients, often but not always due to excessive dosage. These complications are of a serious nature and are chiefly concerned with injury to the blood forming organs or actual blood destruction with the production of anemias, leukopenias, agranulocytoses, or hemoglobinemias. At times the drug has also been the cause of formation of transitory or more permanent kidney stones. The complications are relatively infrequent considering the tremendous application of the drugs, and even the occasional occurrences can be minimized by the prompt withdrawal of the drug in time.

Aside from the great usefulness in pneumonia, sulfapyridine or its re-



lated compounds have been used in an attempt to cure certain serious illnesses against which there has been no single effective remedy. The results have not all been entirely encouraging, and some of the diseases against which treatment has been attempted will be enumerated.

**Tuberculosis.**—Allison and Meyers at Bellevue Hospital used adequate dosage of the drug in seven patients with active pulmonary tuberculosis but found no evidence that the treatment favorably influenced the course of the disease. In some of the cases the complications due to drug therapy necessitated its withdrawal before complete dosage was attained.

**Staphylococcus Infections.**—This organism has not yielded to treatment by sulfanilamid, the original drug. The blood stream invasion by this organism complicating either large abscesses or osteomyelitis and a variety of other conditions has always been a formidable disease to treat since there was no really effective remedy to sterilize the blood stream. Transfusions and surgical care of the foci for dissemination and the occasional use of bacteriophage have, in the past, resulted in a number of recoveries even with blood stream invasion. The use of sulfanilamid during the past year resulted in a more consistent cure in a larger proportion of patients, and for the time this drug has become a valuable addition to the procedures used in combating staphylococcus bacteremias.

**Subacute Bacterial Endocarditis.**—This disease, ordinarily due to streptococcus non-hemolyticus, has not yielded at all to treatment by sulfanilamid. It is a fairly common disorder and accounts for a considerable number of deaths as a complication of heart disease, and spontaneous recovery has been extremely rare. Until now no drug of the great variety heretofore used has met with any success. Sulfapyridine has been able to cause a transitory improvement in a number of patients, and recently its use has been combined with the continuous intravenous instillation of heparin, an anti-coagu-

lant. The purpose of the latter substance is to attempt to separate by dissolution the masses of bacteria growing within blood clots upon the diseased valves so that by appearing in the circulation they may be subjected to the influence of the sulfapyridine administered during the same time. A considerable proportion of at least temporary cures are being reported. The treatment may do harm but if the course of the disease seems to outweigh the risks of treatment, the use of this procedure is justified.

**Trachoma.**—There is such a growing list of diseases in which sulfapyridine is tried that one could not attempt to name them all. In addition to those just described in more detail, favorable reports have appeared regarding the cure in isolated instances of such ordinarily resistant diseases as trachoma and infections of the blood stream by the Friedlander bacillus.

**Pneumonia.**—The use of sulfapyridine and more recently sodium sulfapyridine in pneumonias has continued with justifiable enthusiasm. There has resulted a more rapid lowering of the fever, sterilization of the blood stream, and a lowering of the mortality rate in all of the series of cases which have been reported. Its combined use with anti-pneumococcus serum seems to exert the most favorable effect where such a serum is available for the particular infection. Sulfapyridine not only accentuates the value of serum but is also of considerable value when used alone, particularly in patients who can not be typed or in whom their type of pneumococcus infection does not have a good anti-serum available. Pneumonias due to type III pneumococcus, previously characterized by a high mortality rate have, in many instances responded favorably after the use of sulfapyridine. The drug has proved very efficacious in treating the pneumococcic pneumonias in children; the streptococcic pneumonias have also responded favorably. The broncho-pneumonias, however, have not been consistently benefited by chemo-therapy due to

the fact that there is a virus rather than a bacterial cause in many of these cases. Sulfapyridine has not been especially useful for diseases due to filterable viruses. Most of the workers stress that the value of a therapeutic agent in pneumonia can not be established during one season since the variety and virulence of pneumococcal infections vary from year to year. The shortening of the febrile course, lowering of the death rate, and the striking diminution in the need for other remedial agents has, however, shown a unanimity of opinions in almost all series of cases reported during the past two pneumonia seasons.

### VITAMINS AND HORMONES

**Vitamin K.**—The clinical application of this newly discovered substance reached widespread proportions during the year. The existence of vitamin K was first suspected from experiments done nine years ago by Dam of Copenhagen. On a fat-free diet, chicks developed, after several weeks, hemorrhages in the skin, mucous membranes, and other portions of the body. It was subsequently demonstrated that a new fat-soluble vitamin is essential for the prevention of the bleeding tendency. Vitamin K is present in large amounts in certain green vegetables such as alfalfa, spinach, and kale. In normal mammals the vitamin can be produced from other foods by intestinal bacterial action. The vitamin has now been isolated in the form of a highly potent oil.

A vitamin K deficiency in man can develop due to faulty intestinal absorption such as may occur when bile is excluded from the intestinal tract because of the function of the latter substance in the absorption of fats. In obstructive jaundice or in patients with biliary fistulas, no bile enters the intestine, the absorption of fats and consequently of fat-soluble vitamin K is interrupted. After several weeks there results a lowering of the blood plasma prothrombin level, and bleeding often results. Treatment consists in feeding bile or bile salts together with

large amounts of vitamin K. The danger of post-operative bleeding in jaundiced patients has long been known and never before satisfactorily controlled. Vitamin K concentrate obtained from extraction of alfalfa meal is now available and reports are appearing offering hope for a pure crystalline vitamin K. The criteria for treatment can be judged not only by the occurrence or control of visible bleeding but by the newer laboratory procedures which have been introduced for the determination of the blood pro-thrombin levels. This vitamin has no value where bleeding is due to other causes.

**Vitamin B.**—There are now available for investigative and clinical use synthetic nicotinic acid, thiamin chloride, and riboflavin. These are specific chemical substances and constitute a portion of the factors included in the vitamin B complex. Deficiency states may arise in patients for one or more of these substances as a result of failure to consume an adequate diet or because of increased destruction or lack of absorption and utilization of these protective chemicals. In such cases there may result disease entities showing characteristic manifestations of a variety and intensity depending upon the degree of deficiency and the number of factors involved. The failure may be the result of poverty, ignorance, food idiosyncracies, chronic alcoholism, or as the result of long continued restricted diets for such diseases as peptic ulcer or diabetes mellitus. Frequently there is an associated deficiency with one or more of the other vitamins such as A, C, or D.

**Pellagra** is a disease due to nicotinic acid deficiency and its manifestations appear within the skin, mucous membranes of the alimentary tract, and the central nervous system. The tongue is smooth and red, the back of the hands appear red, scaly, and cracked, and a similar lesion may appear about the elbows, knees, ankles, neck, armpits, and groin. The entire alimentary tract from the lips to the rectum may be inflamed with reddening and swell-

ing producing abdominal pain, distention, and foul watery diarrhea. The mucous membranes of the urinary tract may also be affected. In the late stages mental symptoms may appear, the patient becoming delirious and maniacal unless treated. Death may ensue preceded by circulatory collapse. The administration of nicotinic acid in adequate doses will bring about prompt and striking improvement.

**Beriberi** is due to thiamin ( $B_1$ ) deficiency and is often associated with pellagra. Polyneuritis is the chief manifestation and may be ushered in with muscular cramp, diarrhea, palpitation, and shortness of breath. Burning, numbness, and tingling of the extremities warn of a developing neuritis. Another variety of thiamin deficiency affects chiefly the heart and peripheral vascular system and is associated with accumulation of fluid within the soft tissues and body cavities. This picture is known as wet beriberi. The administration of thiamin chloride either by way of the mouth or by needle is a specific cure for the manifestations of this disease.

The deficiency syndrome due to the lack of the riboflavin ( $B_2$ ) factor is known to exist but has not yet been clearly defined. Cracking at the corners of the mouth known as cheilosis seems to be evidence of a deficiency state and groups of cases have been reported which cleared promptly upon the administration of riboflavin alone.

The use of these specific substances is usually reserved for the initial or acute stages, at which time the intravenous route must frequently be used. When a remission has been obtained, the patient must be placed on a well-balanced diet containing adequate proportions of vitamin B. As a precautionary measure, substances especially rich in vitamin B may be added in the form of either brewers' yeast, rice polishings, or wheat germ.

**Addison's Disease.**—The treatment of this disease has heretofore not been entirely satisfactory, particularly disappointing having been

the results with extracts made from the adrenal cortex. The addition of salt to the diet and the restriction of potassium intake have made a noteworthy advance in the therapy of this disease. The isolation of crystalline substances from the adrenal cortex having great physiological activities stimulated the search for synthetic equivalents which will be useful in combating the adrenal cortex deficiency states. This goal has been realized in the preparation of esters of desoxycorticosterone by Reichstein. This synthetic hormone is dissolved in sesame oil and injected into the skin or muscle each day or so, or the substance is prepared as a sterile pellet and buried under skin where it serves as a reservoir for the continuous absorption until exhausted when a new pellet is similarly placed. This chemical substance has shown a striking superiority over any of the extracts previously used and causes a return to normal of many of the metabolic defects due to the disease. These favorable results are accomplished often without modification of diet or increase of salt intake, and the benefits exceed those obtained by dietary measures. Application of the synthetic hormone ester causes a striking retention of salt and water with a considerable decrease in the urinary excretion of sodium, chloride, and water. There is usually a corresponding gain in weight. Other elements whose retention in the blood contribute to the disease picture are excreted so that more normal blood values are attained; potassium, nitrogen, calcium, and cholesterol are all favorably influenced. The blood pressure is frequently restored to normal from its characteristically low level, and there is an improvement in the sense of strength with loss of asthenia and nausea. The potency of the drug may accomplish some of its benefits beyond the point of normal restoration so that overdose is cautioned against by observing overaccumulation of body fluids occasionally resembling severe heart failure. Since patients vary greatly in the amounts of drug necessary to at-



tain a cure, the substance can not be used indiscriminately and particularly not without facilities for chemical studies of those substances whose altered values it is essential to observe.

**Estrogenic Hormone.**—Although estrogenic hormones (ovarian-like) have been produced in pure crystalline form and by chemical modifications have attained a high degree of potency, these preparations still entail the use of pregnancy fluids or tissues. In 1938 Dodds and coworkers in England announced the synthesis of a new estrogenic agent, diethylstilbestrol. It is inexpensive and in animals almost equally effective by mouth as by injection, in these respects offering important advantages over the substances previously available. Early reports of its use claimed all the effects observed with natural estrogens, including the relief of menopausal symptoms. Subsequent workers agreed as to the estrogenic properties of the substance but noted unpleasant side-effects attendant upon its use and which in some instances were due to injury to certain organs. One group of workers recorded a high percentage of toxic symptoms such as nausea, vomiting, abdominal pain, diarrhea, mental disturbances, and cutaneous rashes. They felt that its use was at present unsafe but that perhaps minor chemical modifications might eliminate the dangers and still retain its unquestioned estrogenic activity. Other groups of investigators were favorably impressed by its specific effectiveness and absence of any maintained unpleasant or toxic reactions. The essential advantages of the new substance designated as stilbestrol are its cheapness as compared with the natural estrogens of equal potency and the absence of destructive action upon it by the gastrointestinal tract, permitting its use by mouth. Aside from the question of toxicity of the new drug in perhaps isolated cases, there is also the possibility of carcinogenic properties which must be kept in mind when considering the use of such an active estrogenic substance over a prolonged period.

## HYPERTENSION

The year witnessed a continued intensification of studies designed to interpret and alleviate those patients who exhibit a maintained elevation of blood pressure. Most of the investigative work has stemmed from the experiments of Goldblatt who was able to mimic in animals all phases of the disease in humans by progressive narrowing of the renal arteries by means of the application of clamps. Particularly fruitful of further work in humans was his observation that restriction of one renal artery could induce all the manifestations of hypertensive disease and that these could, at least for a time, be alleviated by removal of that kidney.

Innumerable studies quickly appeared in which re-examination of patients with high blood pressure by special methods attempted to find either one anomalous kidney or a single diseased kidney whose removal or cure might favorably influence the course of the illness heretofore considered beyond influence by medical measures. As a result in a considerable number of instances single atrophic functionless kidneys, infected kidneys, kidneys with stones or other causes for mal-function were discovered and removed surgically. In some of these cases there was transitory lowering of the blood pressure, in others no benefits were attained, and in a small number of instances apparent cures were established in previous seemingly hopeless situations. The pendulum of enthusiasm swung too far and surgical intervention was encouraged in situations where the presence of a stone or minimal infection were merely incidental findings in hypertensive disease exhibiting widespread arterial damage. At the same time it hastened intervention where the presence of stone or infection in one kidney might not have been properly evaluated previous to this newer conception of the etiology of hypertension. Knowledge of the deleterious role of chronic purulent infection of the kidney and of the eventuality of chronic kidney disease with high blood pressure in many of these instances led to a concerted



effort accurately to diagnose and more effectively to treat so-called pyelitis of childhood. The newer antiseptic drugs, such as mandelic acid and sulfanilamid compounds, have been effective aids in carrying on in this direction.

One has encountered much less enthusiasm during this past year about the nerve resections designed to relieve hypertension. The hopelessness of some of these patients in the face of a process endowed with a potentially inexorable advance leading to early death or invalidism naturally gives greater credence to any procedure holding out reasonable basis for improvement. The mental attitude of the physician and patient has been that there is nothing to lose and perhaps something to gain. This attitude had been abetted by the over-enthusiasm of some of the surgeons who were anxious to try their techniques. Most of the larger clinics carefully evaluated the ultimate results and as time proceeds find that much of the improvement has been of too transient a nature to warrant its widespread application. During 1939 greater effort was employed in evaluating and classifying each individual with hypertension in an attempt to find a cause. In a few cases surgical removal of a single diseased kidney in a hypertensive patient has justly rewarded the trial.

An entirely new method of producing hypertension was discovered by Dr. I. H. Page. By wrapping the normal kidney in situ in cellophane, an inflammatory hull formed about the organ and brought about a progressive elevation of blood pressure in animals, with results entirely analogous to those obtained by the Goldblatt method. Usually three to five weeks is required for severe hypertension to occur whether one or both kidneys are placed in cellophane. If only a single kidney has been used, removal of this altered organ after hypertension has developed results in a prompt return of blood pressure to normal. The constricting hull, if left in place, results in a continued elevation of pressure with eventual damage to the arterioles and a final pic-

ture not unlike that produced by Goldblatt and in the human disease of essential hypertension.

A really significant advance was made in the past year in the better understanding of patients with high blood pressure. With the human disease so closely reproducible in experimental animals the fundamental causes and perhaps alleviation can be more readily studied.

#### AMERICAN MEDICAL ASSOCIATION AND GOVERNMENT

The indictment of the Medical Society of the District of Columbia by the Attorney General's office has been denied. The activities and functions of medical practice in the opinion of the Court are not a trade and could not constitute a violation of the anti-trust laws, in contrast to the opinion of Assistant Attorney General Thurman Arnold. Whether or not this opinion will be appealed is not certain. The steadfast opposing opinions of organized medicine seems to have borne fruit.

There seems to be a lull in the enthusiasm on the part of the Administration officials to urge enactment of National Health Programs. The President has favored a much more limited Federal participation, one which fits into the existing medical structure. Its tentative plans call for the construction of hospitals throughout the country at government cost in areas in need of such facilities. Such a procedure would not put an added tax burden on these poorer communities and has not met with any serious antagonism on the part of organized medicine.

It is a fact that "the United States stands first among the nations of the world in the achievement and effectiveness of its medicine, medical practice and hospitalization. The leadership in world medicine is the result of its freedom from hampering control." The governments, both Federal and local, have contributed enormously, however, to the more effective practice of medicine, particularly in the field of assisting with diagnostic methods in the care of infectious or epidemic diseases. Their serologic

## SURGERY

and bacteriologic laboratories usually function with accuracy and efficiency and in almost every community stand as a source for appeal where extra help is needed along these lines. The private practitioner often has at his disposal costly serums for use whenever needed aside from the availability of diagnostic experts for consultation in such diseases as pneumonia, meningitis, poliomyelitis, or contagious diseases. With this help the average general practitioner can satisfactorily handle the great majority of his patients.

To quote Dr. Frederick M. Allen of New York: "The office of the average general practitioner is an efficient and economical medical clearing house. The great majority of cases coming to him are simple enough to be effectively diagnosed and treated with his own equipment or with readily available laboratory and other aids. In a majority of cases he finds need for consultation with a single specialist, seldom more, and he guides the patient in this step. In a minority of cases he finds hospitalization necessary for either diagnosis or treatment and he directs the patient accordingly. The contention that faulty diagnosis in physicians' offices endangers public health to such a degree as to require revolution of the entire system of medical practice is a self-evident absurdity."

No system of costly intensive routine study of all patients can replace the judgment of a well-trained, thoughtful, and honest private physician whose experience guides him in each instance to the proper selection of important rather than routine special aids, and these to be well performed. The selection and preparation of the right men for medicine

is of fundamental importance. The beneficent paternalism of an altruistic government might well be directed toward greater financial aid to promising students at present deprived of the opportunity to enter a profession because of its constantly mounting costs for education.

The American Medical Association has enunciated its own platform as follows: "1. The establishment of an agency of the Federal government under which shall be coordinated and administered all medical and health functions of the Federal government exclusive of those of the army and navy. 2. The allotment of such funds as the Congress may make available to any state in actual need, for the prevention of disease, the promotion of health and the care of the sick as proof of such need. 3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility. 4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration. 5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration. 6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established. 7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability. 8. Expansion of public health and medical services consistent with the American system of democracy."

## SURGERY

BY FRANK L. MELENEY

ASSOCIATE PROFESSOR OF CLINICAL SURGERY, COLUMBIA UNIVERSITY

### GENERAL PROGRESS

Every year brings something new in surgery, but its significance can

not be measured in a year's span. It must stand the test of time; three, five, ten years and sometimes more

are required to prove its worth. Those things which have the widest application may be appraised in the shortest space of time while those of limited application are slower to pile up evidence of their importance and yet may be more valuable in the long run. Surgery in 1939 has made continued but slow progress: (1) in the fields of anesthesia; (2) in the treatment of certain localized lesions of the chest, of the lungs, of the heart and of the mediastinum; and (3) in minimizing the risks of operation by better preparation of the patient before and better care after that procedure. Coincidentally, rapid studies have continued in the field of surgical infections.

### ANESTHESIA

**New Agents.**—The field of anesthesia is being steadily enlarged by the discovery of new agents, and renewed interest is being shown not only by those who desire to undertake the perfection of new techniques but by those who desire to go into the more fundamental questions of anesthetic physiology or pharmacology. The mechanism of the production of the anesthetic state is little understood and much more rapid progress will be made when these processes are known.

**Avertin** has continued to maintain a high place for itself in the estimation of patients, anesthetists, and surgeons. To fall off into an irresistible sleep in one's own bed before going to the operating room and then to slumber through the first two days after operation with little or no recollection of the ordinary discomforts of the immediate postoperative period, permit patients to look back upon the experience of avertin with pleasure and satisfaction. The ease of induction of the inhalation anesthetic when there has been a basal analgesia with avertin and the smooth recovery please the anesthetist and more than make up for the strain attendant upon the closer supervision of the anesthesia during its course, with the frequent determination of pulse, respiration, and blood pressure. The surgeon can confi-

dently proceed with his operation with the knowledge that the anesthesia will be smooth and relaxation complete. However, the contraindications to the use of avertin must be constantly kept in mind by surgeon and anesthetist, particularly jaundice or other evidences of liver damage. If the occasional untoward effects on blood pressure and respiration occur, they must be very promptly dealt with by the appropriate measures well known to the anesthetists.

**Intratracheal anesthesia** has continued to find favor with surgeons and anesthetists for chest and upper abdominal work. The shallow excursions of the respiratory cycle make operation easier and less fatiguing both for the patient and the surgeon. The occasional trauma to the larynx and trachea is more than compensated for by the opportunity of frequently aspirating mucus from the depths of the respiratory tract. This has resulted in a lowering of the incidence of postoperative pneumonia.

**Evipal** has had a steadily increasing popularity as an intravenous anesthetic, chiefly for short procedures lasting 15 to 30 minutes. However, many cases have been reported in which it was possible to continue a satisfactory anesthesia for over an hour in cases where complete muscular relaxation was not required. The speed of administration is almost automatic, depending upon the reaction of the patient. The patient is asked to count while the medicine is being injected in a 10 per cent solution at the rate of 1 cc. every 10 to 15 seconds. Before 3 to 4 cc. have been given, the counting ceases, the patient is unconscious, and this anesthetic state is continued by the slow administration of the drug about 1 cc. every ten minutes, movements of the patient indicating when more should be given. The rapid recovery from this anesthetic is most gratifying, and it leaves no untoward after effects. Its only contraindication is in those cases which are hypersensitive to the barbiturates, and in old persons it must be given with extreme caution. During the past year, another intravenous anesthetic has



been growing in favor because it is thought to be safer than evipal; namely, pentothal. The margin of safety is a little wider and it may be given to those who have an idiosyncrasy for evipal.

## SURGERY OF THE CHEST

**Lungs.**—Although tuberculosis is steadily declining in this country, the number of cases which are subjected to surgical procedures is steadily increasing as the experience of the thoracic surgeons grows. Extrapleural thoracoplasty in multiple stages may be done safely and with a high percentage of cures or arrest of the disease in those cases in which the active disease is limited to one lung and improvement has come to a standstill with conservative measures.

In non-tuberculous pulmonary infections, experience is accumulating to make the treatment of lung abscess and bronchiectasis more successful and safe. The optimum time of attack on these infections is conservatively shortening as diagnosis is more frequently made earlier and the indications for operation are more promptly determined before the patient has been worn down by the prolonged absorption of toxic substances and the accompanying fever. Zinc peroxide is successfully meeting the serious problem of the anaerobic elements in these infections.

**Mediastinum.**—Benign tumors of great variety have been found in the lungs and mediastinum and have been successfully removed, the variety depending upon the fact that embryonal tissue of varied potential differentiation may show a preponderance of any one of its elements. All of these tumors are essentially composite or mixed tumors. The malignant chest tumors, however, continue to be a baffling problem because of their insidious development and early invasion of surrounding tissues, especially the glands of the mediastinum.

**Heart.**—The heart has gradually, slowly yielded to surgical attack in cases of patent ductus arteriosus, a congenital communication between the peripheral and pulmonary sys-

tems passing from the aorta to the pulmonary artery. This has been successfully closed by ligature in a number of cases with attendant improvement of cardiac function and a reduction of the risk of developing on this anomalous vessel vegetations due to streptococcus viridans. The encouragement held out to patients with cardiac decompensation or pain due to inadequate coronary circulation by the development of a collateral blood supply through the pectoralis major muscle applied to the pericardium, has not been increasing during the past year because of the gravity of the operation and the high mortality. The principle is sound, however, and there are indications that the end may be attained by some simpler procedure. Aneurysms of the aorta and other large arteries, often producing complete incapacity for work, unbearable pain, and the danger of fatal hemorrhage, have recently yielded to slow obliteration of the enlarged sac by inserting a fine wire into the sac and heating the wire to such a temperature that the blood slowly coagulates about the coils. This has frequently resulted in an amelioration of the pain and a restoration of working ability and has been the first ray of hope for these unfortunate individuals.

## MINIMIZING THE RISKS OF OPERATION

The profound disturbances of physiology in surgical cases, particularly gastro-intestinal and cardiovascular physiology, developing either rapidly or slowly, greatly increase the risk of operation. If there is time, these functions must be restored to normal before any procedure is undertaken. However, if there is no time before or if they develop afterward, these disturbances must be corrected as soon as possible.

Some are grossly apparent to the eye on physical examination while others require more exact measurements by laboratory tests. Of these, the most important is the water balance. Excessive dehydration by low intake of fluids or high output as in sweating, vomiting, diarrhea, or the



drainage of fistulas, may be measured by relatively simple means and the amount of fluid necessary to restore balance easily determined. The electrolytes can be measured and deficiencies easily made up. Greater difficulty of restoration is found with the organic elements, particularly the proteins, and in many cases a vicious cycle is set up which can only be broken with extreme difficulty. High protein feeding, which is theoretically the best method of restoring serum protein, may be prevented by a stomach intolerance. Transfusions and infusions of serum or plasma are less effective. Intravenous amino acids may become the method of choice if a way can be found to administer them so as to build up complete human proteins and if they can be administered without obliterating the superficial veins used for their conveyance. The presence of an infection may completely nullify all efforts to restore serum protein until it is brought under control.

Bleeding tendencies may be measured and in many cases remedied. Careful analyses of the corpuscular elements of the blood, their age and their fragility must frequently be made. Blood clotting elements are difficult to measure and to rectify if altered. The importance of Vitamin K has been repeatedly confirmed and the role played by the bile in its adequate absorption from the intestine. Certain of the other vitamins may be accurately measured in the blood and their deficiencies noted and corrected.

Intestinal stasis and obstruction have, during the past year, come under control in large measure by the simple procedure of passing a rubber tube down into the intestine and providing for its rapid passage downward to the site of obstruction by the peristaltic action of the gut, stimulated by distention of a small rubber balloon near the top of the tube. The technique of its proper administration is important to get adequate results but is not difficult to learn. As it passes downward, the gas and fluid above the obstruction are removed by suction and the relief of

the distention removes the danger of toxic absorption except in those cases where the obstruction is due to a gangrenous loop of gut. If rapid improvement does not take place in these cases, operation is indicated, but if improvement is steady, the operation can be elected to be performed at the optimum time. The mortality in cases of intestinal obstruction has been strikingly reduced by this new technical procedure.

#### SURGICAL INFECTIONS

The Sulfanilamide group of drugs have continued to give gratifying results in those hemolytic streptococcus infections in which the inflammation is diffuse and there is little or no necrosis of tissue. The increased use of sulfanilamide in all kinds of infections of unknown etiology has often postponed the exact determination of the cause and is to be deplored. Assumption that a given clinical infection is due to an organism which is susceptible to sulfanilamide often delays the administration of the proper medication. It can not be too strongly stressed that in any type of infection the causative organism should be determined at the earliest possible time because so many specific methods of treatment are now available—sulfanilamide for the hemolytic streptococcus, sulfapyridine for the pneumococcus, bacteriophage for the staphylococcus and colon bacillus, zinc peroxide for the anaerobes, etc., etc. There is some evidence that a new derivative, sulfamethylthiasol, may be effective in staphylococcus infections, but this remains to be determined by more adequate clinical experience.

#### Operative Wound Infections.—

More and more attention is being given to an accurate determination of the number, nature, and source of operative wound infections. When no accurate records are kept, impressions are notoriously inaccurate, but where these studies are made, the whole surgical staff is keyed up to a high interest in the effort to close all possible avenues of contamination. Thus, methods have been devised to

## PUBLIC HEALTH AND HYGIENE

perfect the methods of sterilization both for instruments and dry goods. More effective masking of nose as well as mouth has been demanded. Search is being made for more efficient skin sterilizers. One of the most important advances in this field has been the perfection of methods for air-sterilization by means of ultra-violet radiation. It has been found that, by the proper methods of filtration, rays may be elaborated which have a high bactericidal action and a low erythema effect. By careful calibration of intensities, effective radiation may be obtained which minimizes the deposit of bacteria into the wound and yet does little or no damage to the tissues.

The use of silk rather than catgut in clean surgical cases is spreading extensively through the country and is a major factor in minimizing operative wound infections. This is true not because catgut is frequently contaminated with the organisms causing the usual wound infections, but because the presence of this irritat-

ing foreign body causes an exudation of fluid which permits the casually contaminating organisms to gain a foothold and multiply.

### DRUG STANDARDS

The new Food and Drugs Act now lists all sterile surgical products as drugs and has put the control of such products under the Food and Drugs Administration of the Department of Agriculture. The United States Pharmacopoeia has been accepted as the authority for the standardization of these goods. During the past year, these standards have been set up and adopted and now appear in the Official Supplement to the *U. S. Pharmacopoeia XI*. Hereafter, manufacturers will be obliged to conform to these standards and if they fail to do so, they will be subject to prosecution and the confiscation of their substandard products. It is expected that this will greatly improve the quality and guarantee the sterility of these important elements of the surgeon's armamentarium.

## PUBLIC HEALTH AND HYGIENE

By IRA V. HISCOCK

PROFESSOR, YALE UNIVERSITY SCHOOL OF MEDICINE

### NATIONAL HEALTH PROGRAM

Two aspects of the national health program received prominent attention in 1939, one relating to features of existing programs throughout the country, the other to planning for a more comprehensive future program. At the completion of the third full year since the Federal Social Security Act became effective, the Surgeon General of the U. S. Public Health Service reported that the Service had allocated to the states slightly more than \$27,000,000 for public health activities, in addition to approximately \$2,400,000 during 1939 specifically for venereal disease control activities. These grants stimulated interest and appropriations in the states, and demonstrated "that there is a definite need for increased health expenditures if the nation as a whole is to

enjoy the ultimate in freedom from disease." Of great significance has been the personnel training provided to 3,820 persons since the beginning of Social Security appropriations, with 1,000 receiving public health training in 1939.

### VENEREAL DISEASE CONTROL

Congress passed the Venereal Disease Control Act authorizing appropriations of \$3,000,000, \$5,000,000 and \$7,000,000 for the first three fiscal years. State and local health departments provided more than \$4,300,000 to match the Federal appropriation. In the year some 525,000 new patients with syphilis have been brought under treatment and reported to the state departments of health. Eighteen or more states have passed laws requiring premarital examinations, and eight

states require a serological test of all expectant mothers.

#### **CANCER AND PNEUMONIA**

The National Cancer Institute has passed through the stage of organization and is extending its activities in research, cancer control, and education. Research will be centralized in the new building opened this year at Bethesda, on the "Sixty Acres of Science" with other buildings of the National Institute of Health.

An increasing number of states provided measures for the reduction of pneumonia mortality, including extension of diagnostic laboratory facilities, distribution of therapeutic agents, promotion of wider availability of nursing care and education programs. Introduction from abroad of a potent new chemotherapeutic agent, sulfapyridine, has enhanced the possibilities.

#### **COMMUNITY SANITATION**

Community sanitation projects, with W.P.A. assistance, operated in over 1,300 counties in 39 states resulting in the installation of nearly 300,000 additional sanitary privies. Malaria control drainage projects operated in 247 counties in 16 states. Some 1,245,000 people live within anopheles mosquito flight range of the areas thus covered. Twenty-nine states have been actively engaged in industrial hygiene activities. (Surgeon General Thomas Parran, *The Health Officer*, U.S. Public Health Service, Vol. 4, No. 2, June 1939).

#### **MATERNAL AND CHILD HEALTH**

Advances were likewise made in the Federal-State Program for Maternal and Child Health. Reports from the 48 states, Alaska, Hawaii and the District of Columbia show, for example, that during the fiscal year, medical supervision was given to expectant mothers in prenatal clinics held in 511 counties, an increase over the previous year of approximately 25 per cent in the areas served. Child health conferences were held in 898 counties, an increase of 30 per cent. Services of local practicing physicians are being utilized increasingly in con-

ducting these conferences for the health supervision of children and expectant mothers, 3,135 practicing physicians participating (including school work) in a year and paid from maternal and child health funds. Another evidence of progress is the use of technical committees of practicing pediatricians and obstetricians in the states to assist in setting up standards for the conduct of conferences and for the training of general practitioners. (Martha M. Eliot, M.D., "The Social Security Program for Children," *The Child*, U.S. Children's Bureau, Vol. 3, No. 7, Jan. 1939.)

#### **EXPANSION OF HEALTH SERVICES**

Further steps were taken in 1939 to develop a more comprehensive national health program. On Jan. 23, President Roosevelt transmitted to Congress the report and recommendations on national health of the Interdepartmental Committee to Coordinate Health and Welfare Activities, with the statement: "The health of the people is a public concern; ill health is a major cause of suffering, economic loss, and dependency; good health is essential to the security and progress of the Nation." On Feb. 28 Senator Wagner introduced a bill "to provide for the general welfare by enabling the several States to make more adequate provision for public health, prevention and control of disease, maternal and child health services, construction and maintenance of needed hospitals and health centers, care of the sick, disability insurance, and training of personnel; to amend the Social Security Act; and for other purposes." This bill was referred to the Committee on Education and Labor, and many conferences followed both in Washington and among professional and lay groups. There is general agreement that public health services should be expanded, that increased hospital facilities are needed in certain sections, and that medical care should be extended for the indigent and medically indigent. Methods of organization and administration, and plans for insurance are subjects of much discus-



sion. Space does not permit of a review of the different viewpoints, but useful references are given. (*The Child*, U.S. Children's Bureau, Vol. 3, Nos. 8 and 9, February and March, 1939; Public Health Aspects of Medical Care, a symposium, by Arthur J. Altmeyer, Irvin Abell, and C.-E. A. Winslow, *A.J.P.H.*, Vol. 29, No. 1, January, 1939; The National Health Program, *How Far? How Fast?* by Abel Wolman, *A.J.P.H.*, Vol. 29, No. 6, June 1939; "Health for Three-Thirds of the Nation," Edward S. Godfrey, M.D., *A.J.P.H.*, Vol. 29, No. 12, December, 1939; House of Delegates Considers National Health Program, *Jour.A.M.A.*, Vol. III, No. 13, Sept. 24, 1938, pp. 1188 and 1191; The Platform of the American Medical Association, *Jour.A.M.A.*, Vol. 113, No. 25, Dec. 16, 1939; Study of the Distribution of Medical Care and Public Health Services in Canada, National Committee for Mental Hygiene, Toronto, 184 pp., 1939.)

#### NUTRITION

A start has been made in dealing with nutrition as a public health problem. Twenty-two states and the District of Columbia have one or more nutritionists on their health department staffs; four state departments have started the work in a year. That dietary deficiencies are usually multiple has been emphasized. Hence the administration of any one vitamin in crystalline form would not provide the complete protection which could be obtained from natural foods. Studies have indicated, among other things, (a) nutritional edema due to low intake of protein; (b) some 100,000 cases of active pellagra in the United States largely endemic in the South; (c) lack of necessary knowledge to choose food wisely and economically in addition to the problem of income; (d) the need better to define the problem. (*Nutrition: Its Public Health Aspects, New Light on Old Health Problems*, Milbank Memorial Fund, New York, 1939; "The Nature of Nutritional Diseases Occurring in the South," W. H. Sebrell, *Milbank Memorial Fund Quarterly*, New York, Vol. XVII, No. 4, Oc-

tober 1939, see also Vol. XVII, No. 3, 1939.)

#### BIRTH CONTROL

An organized official attempt has been made by the State Board of Health in North Carolina to meet the urgent medical need and public desire for a birth control program. In the progress of the program during 18 months of trial it is felt that working quietly and ethically, selection of patients from among the medically indigent wives for strict medical indications and insistence upon local medical approval for state sponsorship has proved helpful. "A health department birth control program is an essential part of the maternity and infant public health service and the better selection of pregnancy risks should favorably affect maternal and infant morbidity and mortality conditions in the counties served." To preserve balance in a generalized public health program it is important continually to develop more nearly complete health education programs and to make available the necessary clinical facilities that serve to encourage or prevent conception according to medical indications." ("A Health Department Birth Control Program," Roy Norton, M.D., M.P.H., *A.J.P.H.*, Vol. 29, No. 3, March 1939; see also "Birth Control in a Midwestern City," Regine K. Stix, M.D., *Milbank Memorial Fund Quarterly*, Vol. XVII, No. 1, January, 1939.)

#### HEALTH OF COLLEGE STUDENTS

A significant report was made to the American Youth Commission of the American Council on Education on a study of 4,800 young people and 500 institutions of higher learning. This deals with the health of youth, the development of college health work, problems and programs, and suggestions for organization and development of college student health service. The report points out that the success of every college health program depends upon the integrated development of its four basic divisions: student health service, campus public health service, classroom instruction in health matters, and phys-



ical education as a health activity. (*The Health of College Students*, by Harold S. Diehl, M.D. and Charles E. Shepard, M.D., Washington: American Council on Education, 1939, 160 pp.)

#### SCHOOL HEALTH PROGRAM

As a section of the inquiry into the character and cost of public education in the State of New York, a study was made of the school health program. The report places emphasis on a healthful physical environment (sanitation and safety), a healthful intellectual and emotional environment interfused with sound and vital health instruction, a well-planned program of physical education and recreation, and a health service program which includes a comprehensive health examination three times during the child's school life. (*The School Health Program*, C.-E. A. Winslow, New York: McGraw-Hill, 1938, 120 pp.)

#### HEALTH AND HOUSING

Developments in housing projects and from field studies have increased the recognition of the value of intensive and fundamental research in the physical characteristics of building materials and in engineering methods, in actual conditions of heat, light, and sound, in the functioning of the family within the home, in the industrial activities of the housewife, in recreational needs, and in economic problems. "To reach a wise solution, the physicist, the engineer, the sociologist, the economist, and the health officer must be brought into fruitful cooperation." (*Progress in the Hygiene of Housing, New Light on Old Health Problems*, Milbank Memorial Fund, New York, 1939.)

#### HEALTH EDUCATION

A new high mark in the development and use of visual methods in health education was established in 1939 through the health exhibits which proved popular to both professional and lay groups at the Golden Gate Exposition in California, and in

the Medicine and Public Health Building of the New York World's Fair. Computations made under skilled direction and based on a careful daily check of visitors indicate an attendance in New York of over 7,500,000, or an attendance for the season of over a quarter of the paid attendance at the Fair. Under the direction of the American Museum of Health there was carried on a pioneer study of the visitor's reaction to the exhibits. Over 50,000 visitors were tested or interviewed, and the analysis of results will furnish important data for future planners of health and other exhibits. (*Man and His Health, a Guide to Medical and Public Health Exhibits*, New York World's Fair, 1939, 96 pp.)

The essential need of education in the advance of health practices and the relation of health and of education are indicated in a comprehensive review of the status of adult health education. (*Educating for Health*, Frank Ernest Hill, Amer. Assoc. for Adult Education, New York, 1939, 212 pp.)

With an emphasis on maintaining and promoting the health of all children, Turner has given the result of pioneer experimentation in putting health teaching into the school curriculum from the beginning grades through secondary school. Health experiences in the school derive from two sources: health instruction as a special subject, and incidental health experiences occurring in other activities or parts of the curriculum. (*Principles of Health Education*, C. E. Turner, D. C. Heath and Co., New York, 1939, 355 pp.)

Techniques and devices to aid the health worker in getting his message over to the public and to stimulate individuals and groups of citizens to effort for their own and the community's health are discussed and illustrated in *Ways to Community Health Education* by Ira V. Hiscock, with the collaboration of Mary P. Connolly, Marjorie Delavan, Raymond S. Patterson, and W. F. Warthen, M.D., Commonwealth Fund, New York, 1939, 306 pp.

## VITAL STATISTICS

### VITAL STATISTICS

BY HALBERT L. DUNN

CHIEF STATISTICIAN FOR VITAL STATISTICS, U. S. BUREAU OF THE CENSUS

#### SCOPE AND IMPORTANCE

The scope of vital statistics is defined as a numerical registration, tabulation, and analysis of data dealing with population, marriages, divorces, births, deaths, and diseases. Official vital statistics in the Division of Vital Statistics, U.S. Bureau of the Census, have been for the most part limited to births and deaths. On July 1, 1939, however, marriage and divorce statistics and institutional population statistics were transferred to the Division.

#### MORTALITY AND NATALITY STATISTICS

The most important facts collected on and tabulated from the birth and death certificates involve such items as place of occurrence of birth and death, place of residence, age, race, occupation, nativity, institution, and cause of death.

In addition to supplying data for the numerous tabulations required by different fields of endeavor, such as public health, social security, public welfare, and population studies, the certificates themselves are essential documents to all citizens as a basis for legal proof of birth and death facts. The importance of the birth and death certificates has enormously increased in the past three years with the establishment of new social legislation dealing with old age and unemployment benefits and death claims. Proof of age and citizenship by means of the birth certificate have become a vital necessity to every citizen of this country.

#### ORGANIZATION AND FIELD WORK

The registration of births and deaths in the United States is accomplished by a far-flung organization of Federal, state, county, and local officials. Each state is subdivided into registration districts to which local registrars are

appointed for the collection of the original certificates.

The struggle for completeness of registration of deaths and births is unremitting. This problem is particularly acute in connection with the registration of births in the rural areas of the South. A variety of devices is being used continually to stimulate registration throughout the country. A certain number of full-time field agents are employed by national and state authorities for this purpose. The personnel of the county health departments actively cooperate in securing complete registration.

Checks of completeness of registration with attendant publicity campaigns are conducted in areas which are known to be deficient. In addition to these routine checks, a complete nation-wide check of births is to be made simultaneously with the taking of the U.S. decennial census of 1940.

#### REVISED STANDARD CERTIFICATES OF BIRTH, DEATH, AND STILLBIRTH

The standard birth and death certificates of the Bureau of the Census have been revised. For the first time, the Bureau is putting into use a standard stillbirth certificate as a record separate from the birth certificate. These revised forms of certificates are to be used for reporting births, deaths, and stillbirths beginning with 1940. Examples of these certificates may be had upon application.

#### INTERNATIONAL LIST OF CAUSES OF DEATH

The fifth decennial revision of the International List of Causes of Death took place at a conference in Paris during October, 1938. The United States' recommendations, which were the result of four years of intensive cooperative work between the Bureau

of the Census and a subcommittee of the American Public Health Association, were accepted for the most part. The major changes in the new International List of Causes of Death involve the titles of the cardiac, puerperal, and accidental causes. The mortality data for 1939 will be based on the new International List. This list will be available in published form early in 1940.

#### PHYSICIANS' HANDBOOK ON BIRTH AND DEATH REGISTRATION

The *Physicians' Handbook* has been completely revised. It is intended to serve as a practical reference book for the use of physicians and medical students. It furnishes basic information concerning the necessary requisites for complete registration of births and deaths and correct certification of Causes of Death. The new revised International List of Causes of Death is incorporated in this handbook, copies of which may be had upon application.

#### PUBLICATIONS

The annual volumes of birth, still-birth, infant mortality, and mortality statistics have been revised. The 1937 volumes have been completed and will appear in two parts: *Vital Statistics of the United States, Part I*, containing mortality and natality data by place of occurrence, and *Vital Statistics of the United States, Part II*, containing mortality and natality data by place of residence. Volumes 7 and 8 of the Vital Statistics-Special Report series, the *Weekly Health Index*, the *Weekly Accident Bulletin*, the *Registrar*, and the *Monthly Vital Statistics Bulletin* have all been published throughout the year.

Extensive tabulations for deaths in hospitals and institutions were released in 1939, for the first time, by the Bureau as a part of the Vital Statistics-Special Report series. These tabulations include deaths in institutions by type of institutional service and type of institutional control, deaths by resident and non-resident institution, and specific causes of

death by institutional service, and type of control.

#### SPECIAL PROJECTS

A number of special projects are planned for the ensuing years. They will be concerned with the following aspects of mortality and natality statistics: (1) mortality and natality rates based upon the combined experience of the years 1939, 1940, and 1941; (2) natality and mortality rates for 1900-1940; (3) special tabulations by residence; (4) comparability of mortality statistics; (5) occupational mortality; (6) special tabulations for important diseases; (7) completeness of birth registration; (8) fatal accidents. The data concerning fatal accidents shown on death certificates is to be augmented by follow-up inquiries. It is planned to obtain more accurate and complete information in this way. These data will permit a more complete analysis of the problems in fatal accidents.

#### HOSPITAL AND INSTITUTIONAL STATISTICS

During the past several years, the Division of Vital Statistics has tabulated mortality statistics according to hospital or institution where death occurred. Through the medium of the death certificate, which gives the name of the hospital or institution, a national index of all of these institutions has been built. Institutional facts on clinical type of hospital and type of control are to be related to information on births and deaths.

#### MENTAL INSTITUTION STATISTICS

In conjunction with the regular work on the statistics of mental institutions, the data on patients in hospitals for mental diseases and also on the mental defectives and epileptics in mental institutions have been expanded to include individual returns on patients dying in these hospitals and institutions. This will permit correlations of cause of death with type of mental disease. The following reports of mental institution statistics are published annually: (1) Patients in Hospitals for Mental Di-

# VITAL STATISTICS

sease; (2) Mental Defectives and Epileptics in Institutions.

## MARRIAGE AND DIVORCE STATISTICS

The Bureau of the Census has resumed the collection and tabulation of marriage and divorce statistics of the United States. A detailed study of the present situation in regard to marriage and divorce registration in all states has shown that 28 states

now register marriages, and 16 states collect divorce records in a central office. On the basis of this information the Bureau is attempting to set up marriage and divorce registration areas, and so to develop a system of collecting marriage and divorce statistics such as it has established for birth and death statistics.

The nationwide marriage and divorce statistics that have been collected in the past, last reported in

## DEATH RATES PER 100,000 ESTIMATED POPULATION FOR PRINCIPAL CAUSES IN THE REGISTRATION AREA IN CONTINENTAL UNITED STATES: 1900-1937

Cause of Death	1900	1920	1925	1935	1936	1937	*1938
All causes (exclusive of still-births).....	1,755.0	1,303.8	1,184.1	1,092.2	1,151.8	1,122.1	1,060.9
Typhoid and paratyphoid fever....	35.9	7.8	8.0	2.8	2.5	2.1	1.9
Smallpox.....	1.9	0.6	0.7	(7)	(7)	(7)	(7)
Measles.....	12.5	8.8	2.3	3.1	1.0	1.2	2.5
Scarlet fever.....	10.2	4.6	2.7	2.1	1.9	1.4	0.9
Whooping-cough.....	12.1	12.5	6.7	3.7	2.1	3.9	3.7
Diphtheria.....	43.3	15.3	7.8	3.1	2.4	2.0	2.0
Influenza and pneumonia (all forms).....	203.4	208.0	123.4	104.0	119.3	114.5	80.2
Influenza.....	22.9	70.9	29.7	22.1	26.3	29.4	12.7
Bronchopneumonia.....	21.9	54.5	38.7	33.4	36.8	35.4	30.4
Lobar pneumonia.....	158.6	73.0	49.9	45.2	52.8	46.6	34.2
Pneumonia, unspecified.....	9.5	5.1	3.2	3.4	3.1	2.9	2.9
Erysipelas.....	5.1	3.1	2.4	1.7	1.6	1.0	0.5
Epidemic cerebrospinal meningitis.....	(2)	1.6	1.1	2.1	2.4	1.7	0.8
Tuberculosis of the respiratory system.....	180.5	97.0	75.9	49.8	50.6	49.0	44.6
Tuberculosis (all other forms).....	21.4	17.0	10.8	5.2	5.0	4.6	4.4
Malaria.....	7.9	3.6	2.1	3.5	3.1	2.1	1.8
Cancer and other malignant tumors.....	63.0	83.2	92.8	107.9	111.0	112.0	114.6
Diabetes mellitus.....	9.7	16.0	16.9	22.2	23.7	23.7	23.8
Cerebral hemorrhage and softening.....	71.5	81.7	81.0	76.6	81.2	77.0	76.2
Diseases of the heart <sup>1</sup> .....	132.1	159.1	185.7	213.1	227.9	222.3	216.9
Bronchitis.....	45.7	13.2	6.5	3.1	3.4	3.1	2.8
Diarrhea and enteritis <sup>2</sup> .....	133.2	54.3	39.4	14.1	16.3	14.6	14.2
Appendicitis.....	9.7	13.4	15.2	12.7	12.8	11.9	11.0
Hernia, intestinal obstruction <sup>3</sup> .....	12.2	10.6	10.8	10.3	10.5	10.1	9.7
Cirrhosis of the liver.....	12.9	7.1	7.3	7.9	8.2	8.5	8.3
Nephritis.....	89.0	89.2	96.5	81.2	83.2	79.6	77.2
Puerperal septicemia.....	5.7	6.6	5.5	4.1	3.6	2.9	2.6
Other puerperal causes.....	7.6	12.5	9.3	5.8	5.9	5.4	5.0
Congenital malformations and diseases of early infancy.....	91.8	81.7	74.0	49.4	49.7	49.0	48.5
Suicide.....	11.5	10.2	12.1	14.3	14.2	14.9	15.2
Homicide.....	2.1	7.1	8.6	8.3	8.0	7.6	6.8
Automobile accidents <sup>4</sup> .....	(2)	10.4	17.1	26.8	27.8	28.8	23.5
Automobile-railroad collisions.....	(2)	(2)	1.2	1.2	1.3	1.4	1.1
Automobile-street car collisions.....	(2)	(2)	0.5	0.2	0.2	0.2	0.1
Other external causes.....	79.0	60.9	59.7	50.1	56.5	51.0	47.4
Unknown and ill-defined diseases.....	73.8	17.7	17.4	16.1	16.4	15.9	15.1

<sup>1</sup> Excludes diseases of coronary arteries.

<sup>2</sup> From 1900 to 1920 includes ulcer of the duodenum.

<sup>3</sup> From 1900 to 1920 excludes adhesions of intestines.

<sup>4</sup> Excludes deaths from collision with railroad and street cars.

\* Rates are provisional.



# XXIII. MEDICAL SCIENCES

1932, gave only the number of marriages by states and counties, and somewhat more detailed tabulations of divorce. The present investigation is attempting to obtain personal particulars regarding the parties of individual marriages and divorces, such as age, race, residence, and occupation. Such data are urgently needed in a number of fields. The first annual report is expected to cover the year 1940.

## GROWTH OF THE REGISTRATION AREAS

Calendar Year	Estimated Population of Continental United States	Death Registration Area in Continental United States					Number of States	Birth Registration Area in Continental United States					Number of States
		Population		Deaths		Rate per 1,000 Population		Population		Births		Rate per 1,000 Population	
		Number	Per Cent of Total	Number	Rate per 1,000 Population			Number	Per Cent of Total	Number	Rate per 1,000 Population		
1938	130,215,000	130,215,000	100.0	1,381,391	10.6	48	130,215,000	100.0	2,286,962	17.6	48		
1937	129,257,000	129,257,000	100.0	1,450,427	11.2	48	129,257,000	100.0	2,203,337	17.0	48		
1936	128,429,000	128,429,000	100.0	1,479,228	11.5	48	128,429,000	100.0	2,144,790	16.7	48		
1935	127,521,000	127,521,000	100.0	1,392,752	10.9	48	127,521,000	100.0	2,155,105	16.9	48		
1934	126,626,000	126,626,000	100.0	1,396,903	11.0	48	126,626,000	100.0	2,167,636	17.1	48		
1933	125,770,000	125,770,000	100.0	1,342,106	10.7	48	125,770,000	100.0	2,081,232	16.5	48		
1932	124,974,000	120,291,000	96.3	1,308,529	10.9	47	119,027,000	95.2	2,074,042	17.4	47		
1931	124,113,000	119,479,000	96.3	1,322,587	11.1	47	117,522,000	94.7	2,112,760	18.0	46		
1930	123,091,000	118,472,000	96.2	1,343,356	11.3	47	116,556,000	94.7	2,203,958	18.9	46		
1929	121,526,429	116,317,515	95.7	1,386,363	11.9	46	115,097,972	94.7	2,169,920	18.9	46		
1928	119,861,607	114,258,516	95.3	1,378,675	12.1	44	113,050,663	94.3	2,233,149	19.8	44		
1927	118,196,785	108,177,568	91.5	1,236,949	11.4	42	103,575,656	87.6	2,137,836	20.6	40		
1926	116,531,963	104,938,301	90.1	1,285,927	12.3	41	89,682,479	77.0	1,856,068	20.7	35		
1925	114,867,141	102,951,999	89.6	1,219,019	11.8	40	87,486,096	76.2	1,878,880	21.5	33		
1924	113,202,319	100,082,062	88.4	1,173,990	11.7	39	86,256,025	76.2	1,930,614	22.4	33		
1923	111,537,497	97,816,104	87.7	1,193,017	12.2	38	80,694,406	72.3	1,792,646	22.2	30		
1922	109,872,675	93,866,240	85.4	1,101,863	11.7	37	79,415,841	72.3	1,774,911	22.3	30		
1921	108,207,853	89,102,434	82.3	1,032,009	11.6	34	70,738,177	65.4	1,714,261	24.2	27		
1920	106,543,031	87,632,592	82.3	1,142,558	13.0	34	63,740,689	59.8	1,508,874	23.7	23		
1919	105,003,065	85,166,043	81.1	1,096,436	12.9	33	61,483,423	58.6	1,373,438	22.3	22		
1918	103,587,955	81,333,675	78.5	1,471,367	18.1	30	55,515,241	53.6	1,363,649	24.6	20		
1917	102,172,845	74,984,498	73.4	1,068,932	14.3	27	54,771,416	53.6	1,353,792	24.7	20		
1916	100,757,735	71,349,162	70.8	1,001,921	14.0	26	32,788,670	32.5	818,983	25.0	11		
1915	99,342,625	67,095,681	67.5	909,155	13.6	25	30,936,179	31.1	776,304	25.1	10		
1914	97,927,516	65,813,315	67.2	898,059	13.6	25							
1913	96,512,407	63,200,625	65.5	890,848	14.1	24							
1912	95,097,298	60,359,974	63.5	838,251	13.9	23							
1911	93,682,189	59,183,071	63.2	839,284	14.2	23							
1910	92,267,080	53,831,742	58.3	805,412	15.0	21							
1909	90,691,354	50,870,518	56.1	732,538	14.4	18							
1908	89,073,360	46,789,913	52.5	691,574	14.8	17							
1907	87,455,366	43,016,990	49.2	687,034	16.0	15							
1906	85,837,372	41,983,419	48.9	658,105	15.7	15							
1905	84,219,378	34,052,201	40.4	545,533	16.0	10							
1904	82,601,384	33,345,163	40.4	551,354	16.5	10							
1903	80,983,390	32,701,083	40.4	524,415	16.0	10							
1902	79,365,396	32,029,815	40.4	508,640	15.9	10							
1901	77,747,402	31,370,952	40.3	518,207	16.5	10							
1900	<sup>a</sup> 75,994,575	30,765,618	40.5	539,939	17.6	10							
Census Year													
1900	<sup>b</sup> 75,994,575	<sup>b</sup> 28,807,269	37.9	512,669	17.8	9							
1890	<sup>b</sup> 62,947,714	<sup>b</sup> 19,659,440	31.2	386,212	19.6	8							
1880	<sup>b</sup> 50,155,783	<sup>b</sup> 8,538,366	17.0	169,453	19.8	2							

<sup>a</sup> North Carolina is included, although returns were received only from municipalities having populations of 1,000 or more in 1900; the remainder of the State was added in 1916.

<sup>b</sup> Enumerated population for Census year ending May 31.

NOTE.—For every year the District of Columbia was in both areas, but is not included in the "number of States"; the death area also included a varying number of registration cities in nonregistration States.

# VITAL STATISTICS

## CRIMINAL STATISTICS

The Bureau of the Census makes two annual collections of data in the field of criminal statistics: first, statistics of prisoners admitted to and

discharged from state and Federal prisons and reformatories; second, statistics of criminal cases disposed of in state courts of general criminal jurisdiction. These data are com-

## NATALITY AND MORTALITY BY STATES: 1938

Area	Estimated Population July 1, 1938* and 1937	Live Births		All Deaths		Deaths under 1 Year	
		Number	Rate per 1,000 Estimated Population	Number	Rate per 1,000 Estimated Population	Number	Rate per 1,000 Live Births
United States..	*130,215,000	2,286,962	*17.6	1,381,391	*10.6	116,702	51.0
Alabama.....	2,895,000	62,032	21.4	29,536	10.2	3,772	60.8
Arizona.....	412,000	10,878	26.4	6,002	14.6	1,075	98.8
Arkansas.....	2,048,000	37,182	18.2	16,971	8.3	1,912	51.4
California.....	6,154,000	101,844	16.5	76,187	12.4	4,450	43.7
Colorado.....	1,071,000	20,599	19.2	12,615	11.8	1,240	60.2
Connecticut.....	1,741,000	23,783	13.7	17,582	10.1	864	36.3
Delaware.....	261,000	4,431	17.0	3,199	12.3	234	52.8
District of Columbia	627,000	12,938	20.6	7,962	12.7	622	48.1
Florida.....	1,670,000	31,096	18.6	21,024	12.6	1,802	57.9
Georgia.....	3,085,000	64,636	21.0	33,783	11.0	4,376	67.7
Idaho.....	493,000	11,277	22.9	4,545	9.2	503	44.6
Illinois.....	7,878,000	122,562	15.6	84,769	10.8	5,016	40.9
Indiana.....	3,474,000	60,192	17.3	38,573	11.1	2,560	42.5
Iowa.....	2,552,000	43,221	16.9	25,623	10.0	1,752	40.5
Kansas.....	1,864,000	29,574	15.9	18,583	10.0	1,272	43.0
Kentucky.....	2,920,000	61,878	21.2	29,310	10.0	3,794	61.3
Louisiana.....	2,132,000	48,867	22.9	24,767	11.6	3,278	67.1
Maine.....	856,000	15,218	17.8	10,507	12.3	856	56.2
Maryland.....	1,679,000	29,013	17.3	20,847	12.4	1,616	55.7
Massachusetts.....	4,426,000	61,262	13.8	49,606	11.2	2,446	39.9
Michigan.....	4,830,000	96,963	20.1	50,687	10.5	4,320	44.6
Minnesota.....	2,652,000	50,062	18.9	26,179	9.9	1,940	38.8
Mississippi.....	2,023,000	53,694	26.5	22,800	11.3	3,042	56.7
Missouri.....	3,989,000	58,567	14.7	42,558	10.7	3,018	51.5
Montana.....	539,000	10,673	19.8	5,684	10.5	486	45.5
Nebraska.....	1,364,000	22,401	16.4	11,964	8.8	815	36.4
Nevada.....	101,000	1,888	18.7	1,272	12.6	90	47.7
New Hampshire.....	510,000	7,830	15.4	6,400	12.5	373	47.6
New Jersey.....	4,343,000	56,043	12.9	43,831	10.1	2,216	39.5
New Mexico.....	422,000	14,290	33.9	5,962	14.1	1,554	108.7
New York.....	12,959,000	189,559	14.6	147,106	11.4	7,693	40.6
North Carolina.....	3,492,000	79,934	22.9	33,599	9.6	5,487	68.6
North Dakota.....	706,000	13,041	18.5	5,208	7.4	649	49.8
Ohio.....	6,733,000	112,667	16.7	74,899	11.1	4,878	43.3
Oklahoma.....	2,548,000	44,188	17.3	19,957	7.8	2,167	49.0
Oregon.....	1,027,000	16,245	15.8	11,784	11.5	636	39.2
Pennsylvania.....	10,176,000	165,984	16.3	107,282	10.5	7,623	45.9
Rhode Island.....	681,000	10,536	15.5	8,276	12.2	462	43.8
South Carolina.....	1,875,000	41,120	21.9	20,718	11.0	3,303	80.3
South Dakota.....	692,000	11,826	17.1	5,482	7.9	518	43.8
Tennessee.....	2,893,000	53,651	18.5	29,288	10.1	3,405	63.5
Texas.....	6,172,000	121,156	19.6	60,208	9.8	7,889	65.1
Utah.....	519,000	13,214	25.5	4,853	9.4	618	46.8
Vermont.....	383,000	6,301	16.5	4,591	12.0	305	48.4
Virginia.....	2,706,000	53,495	19.8	29,579	10.9	3,540	66.2
Washington.....	1,658,000	26,767	16.1	18,528	11.2	1,035	38.7
West Virginia.....	1,865,000	42,434	22.8	17,766	9.5	2,643	62.3
Wisconsin.....	2,926,000	55,004	18.8	30,704	10.5	2,301	41.8
Wyoming.....	235,000	4,946	21.0	2,235	9.5	256	51.8

\* Population estimated for United States only in 1938; rate for each State is based on the 1937 estimated population.

## XXIII. MEDICAL SCIENCES

piled for each calendar year and published in two reports: "Prisoners in State and Federal Prisons and Reformatories" and "Judicial Criminal Statistics." For the year 1939 the prisons and reformatories of 46 states, District of Columbia, and the Federal Government reported certain information on each prisoner entering and leaving the institution during the year, and 25 states cooperated in reporting dispositions of criminal cases in the state courts. It is expected that for the year 1940 reports will be

received from the prisons and reformatories in all 48 states of the Union.

The Bureau of the Census also collects decennially statistics of prisoners in local jails and workhouses. The last jail census occurred in 1933 and presumably the next will be made in 1943. An experiment in the collection of annual jail statistics is being undertaken for the year 1940 in a few selected areas, and the data compiled from this experiment will be published in a special report.

## PERIODICAL PUBLICATIONS

### *American Druggist*

572 Madison Ave., New York City.

### *American Journal of Anatomy*

36th Street and Woodland Ave., Philadelphia.

### *American Journal of Cancer*

654 Madison Ave., New York City.

### *American Journal of Clinical Pathology*

Mount Royal and Guilford Ave., Baltimore, Md.

### *American Journal of the Medical Sciences*

600 South Washington Sq., Philadelphia.

### *American Journal of Nursing*

50 West 50th Street, New York City.

### *American Journal of Obstetrics and Gynecology*

3523 Pine Boulevard, St. Louis, Mo.

### *American Journal of Pathology*

818 Harrison Ave., Boston.

### *American Journal of Pharmacy*

Philadelphia College of Pharmacy and Science, Philadelphia.

### *American Journal of Public Health and the Nation's Health*

50 West 50th Street, New York City.

### *American Journal of Surgery*

49 West 45th Street, New York City.

### *Anatomical Record*

36th Street and Woodland Ave., Philadelphia.

### *Annals of Medical History*

76 Fifth Ave., New York City.

### *Annals of Surgery*

227 South Sixth Street, Philadelphia.

### *Journal of the American College of Dentists*

632 West 168th Street, New York City.

### *Journal of the American Dental Association*

212 East Superior Street, Chicago.

### *Journal of the American Institute of Homeopathy*

280 Madison Ave., New York City.

### *Journal of the American Medical Association*

535 North Dearborn Street, Chicago.

### *Journal of the American Pharmaceutical Association*

2215 Constitution Ave., Washington, D.C.

### *Journal of Bacteriology*

Mount Royal and Guilford Aves., Baltimore, Md.

### *Journal of Bone and Joint Surgery*

The Fenway, Boston.

### *Journal of Clinical Investigation*

654 Madison Ave., New York City.

### *Journal of Dental Research*

632 West 168th Street, New York City.

### *Journal of Experimental Medicine*

York Ave. and 66th Street, New York City.

### *Journal of Infectious Diseases*

629 South Wood Street, Chicago.

### *Journal of Nervous and Mental Disease*

64 West 56th Street, New York City.

### *Journal of Pharmacology and Experimental Therapeutics*

Mount Royal and Guilford Aves., Baltimore, Md.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

### *Journal of Social Hygiene*

50 West 50th Street, New York City.

### *Medical Life*

4 St. Luke's Place, New York City.

### *Medical Record*

20 Vesey Street, New York City.

### *Medical Review of Reviews*

4 St. Luke's Place, New York City.

### *Medicine*

Mount Royal and Guilford Aves.,  
Baltimore, Md.

### *N.Y. State Journal of Medicine*

33 West 42nd Street, New York City.

### *Radiology*

607 Medical Arts Building, Syracuse, N.Y.

### *Surgery, Gynecology and Obstetrics*

54 East Erie Street, Chicago.

### *Yale Journal of Biology and Medicine*

New Haven, Conn.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

ACADEMY OF MEDICINE, 2 E. 103rd St.,  
New York City.

ALLIANCE AGAINST FRAUDS, 36 W. 44th  
St., New York City.

ALLIED DENTAL COUNCIL, 145 W. 57th  
St., New York City.

AMERICAN ACADEMY OF APPLIED DEN-  
TAL SCIENCE, 587 Fifth Ave., New  
York City.

AMERICAN COLLEGE OF SURGEONS, 40  
E. Erie St., Chicago, Ill.

AMERICAN GYNECOLOGICAL SOCIETY,  
1220 Park Ave., New York City.

AMERICAN HEART ASSN., INC., 50 W.  
50th St., New York City.

AMERICAN INSTITUTE OF HOMEOPATHY,  
280 Madison Ave., New York City.

AMERICAN LARYNGOLOGICAL, RHINOLOG-  
ICAL AND OTOLOGICAL SOCIETY, INC.,  
708 Medical Arts Bldg., Rochester,  
N.Y.

AMERICAN MEDICAL ASSN., 535 N.  
Dearborn St., Chicago, Ill.

AMERICAN OPHTHALMOLOGICAL SOCIETY,  
255 S. 17th St., Philadelphia, Pa.

AMERICAN OSTEOPATHIC ASSN., 540 N.  
Michigan Ave., Chicago, Ill.

AMERICAN PHYSIOLOGICAL SOCIETY, 303  
E. Chicago Ave., Chicago, Ill.

AMERICAN SOCIETY OF CLINICAL PATH-  
OLOGISTS, 531 N. Main St., South  
Bend, Ind.

AMERICAN SOCIETY FOR THE CONTROL  
OF CANCER, 1250 Sixth Ave., New  
York City.

AMERICAN SOCIETY OF TROPICAL MEDI-  
CINE, Ohio State University College  
of Medicine, Columbus, Ohio.

AMERICAN VETERINARY MEDICAL ASSN.,  
221 N. La Salle St., Chicago, Ill.

ASSOCIATION OF AMERICAN MEDICAL  
COLLEGES, 5 S. Wabash Ave., Chi-  
cago, Ill.

ASSOCIATION OF MILITARY SURGEONS OF  
THE U.S., Army Medical Museum,  
Washington, D.C.

EDWARD L. TRUDEAU FOUNDATION FOR  
RESEARCH AND TEACHING IN TUBER-  
CULOSIS, Saranac Lake, N.Y.

NATIONAL LEAGUE OF NURSING EDUCA-  
TION, 50 W. 50th St., New York  
City.

NATIONAL TUBERCULOSIS ASSN., 50 W.  
50th St., New York City.

NEW YORK ACADEMY OF SCIENCES,  
77th St. and Central Park West,  
New York City.

NEW YORK HEALTH DEPARTMENT,  
INC., 125 Worth St., New York  
City.

OSTEOPATHIC AID ASSN., 60 East 42nd  
St., New York City.

PUBLIC HEALTH COMMITTEE, 2 E.  
103rd St., New York City.

ROCKEFELLER FOUNDATION, 49 W. 49th  
St., New York City.

SOCIETY OF AMERICAN BACTERIOLOGISTS,  
Agricultural Hall, University of  
Wisconsin, Madison, Wis.

SOCIETY OF MEDICAL JURISPRUDENCE,  
477 First Ave., New York City.

SOUTHERN MEDICAL ASSN., 1928 First  
Ave., Birmingham, Ala.

UNITED HOSPITAL FUND, 370 Lexing-  
ton Ave., New York City.



## DIVISION XXIV PHILOSOPHICAL AND SOCIAL SCIENCES

### PSYCHOLOGY

BY WILBUR S. HULIN

PROFESSOR, UNIVERSITY OF OREGON

#### GENERAL

**Popular.**—In creating a general appeal for the science of psychology, R. J. Lewinski and D. D. Feder say that the American Psychological Association should publish a popular magazine similar to *Hygeia*, which is sponsored by the American Medical Association (*J. Appl. Psych.*, Aug.). A reliable discussion of the ever-present problem of *Improving Your Personality* (Walton) is extensively treated by E. G. Lockhart who emphasizes the topic of "social effectiveness." A rather fanciful psychology is found in P. Brunton's philosophical volume, *Discover Yourself* (Dutton). A similar book is P. Fletcher's *Life Without Fear* (Dutton).

**Events.**—The American Psychological Association held its annual meeting at Stanford University, Sept. 4-7. The President of the Association, Prof. G. W. Allport of Harvard University, spoke on "The psychologist's frame of reference" (*Psych. Rev.*, Jan., 1940). *The Journal of Criminal Psychology* appeared during the year under the editorship of V. C. Branham. What are the chances of careers for women in academic psychology? S. W. Fernberger points out that while trained men have three chances in four of obtaining an academic position, women have only two chances in five (*Psych. Bull.*, May).

**Textbooks.**—The most significant contribution of the year to the general textbook field is offered in L. E.

Cole's *General Psychology* (McGraw-Hill). Like other leading textbooks of the year, Cole's book shows a slight reactionary tendency in returning to the traditional style of discussion which begins analytically with the nervous system and proceeds to a final chapter on personality. The second text of significance is J. P. Guilford's *General Psychology* (Van Nostrand). E. G. Boring, H. S. Langfeld and H. P. Weld have a new volume, *Introduction to Psychology* (Wiley). E. Freeman furnishes *Principles of General Psychology* (Holt). Dom T. V. Moore has a *Cognitive Psychology* (Lippincott). The newer dynamic approach to the instruction of beginners consists in an endeavor to answer the questions which are most immediately in the minds of the students, questions which can be readily obtained by a class survey. In line with this approach is *Life, A Psychological Survey* (Harper) by S. C. Pressey, J. E. Janney and R. G. Kuhlen.

**Theory.**—Do we use too many "explanatory principles" in our psychology? F. A. Geldard says that Aristotle did, and that even today care must be exercised. For example, over-confidence in the use of neurological principles or common concepts, such as instinct, resonance, redintegration or insight as ultimate explanations (*Psych. Rev.*, Sept.), should be avoided. "The psychological individual" is the functional unit

around which all the phases of an organism's response may be centered; while we do not use the older concept of "ego," there is, according to H. A. Carr and F. A. Kingsbury, a continued need for a single category of psychological activities (*ibid*, July). A description of *American Psychology Before William James* (Rutgers Univ.) by J. W. Fay reveals the fact that a great deal of influence on American thought was exerted by the Scottish commonsense philosophy. C. C. Pratt discusses *The Logic of Modern Psychology* (Macmillan), showing how the discoveries of the related sciences have directed the course of psychology along the lines of biology. An appreciation of William McDougall's contributions to social psychology and abnormal psychology has been expressed by E. Heidebreder and J. Q. Holmopple (*J. Abn. & Soc. Psych.*, Apr.).

**Extra-Sensory Perception.**—Debates regarding the validity of extra-sensory perception continue to be waged vigorously in various quarters, including the *Journal of Parapsychology*. A defense (appearing posthumously) by J. E. Coover of the results, mostly with a negative outcome, derived in the extensive program of psychical research at Stanford University, illustrates how a difference of method can produce the contradictions which are revealed in the results obtained by different experimental approaches to the problem (*J. Parapsych.*, June). F. H. Lund declares that Rhine's ESP phenomena are simply another form of free association (*J. Gen. Psych.*, Jan.). Why has Rhine's work on telepathy received an "undue amount of attention?" H. Rogosin gives three reasons: (a) the work received university sponsorship; (b) influential persons have pushed the publicity; and (c) there is a continued mysticism on the part of certain prominent scholars (*ibid*, July).

#### SOCIAL

**The Current Situation.**—In J. R. Kantor's summary of the "current situation in social psychology," he shows that there is a trend toward

multi-individual relations or inter-behavioral interpretations and away from sociological generalizations (*Psych. Bul.*, May). "A symposium of the relations between the individual and the group" has been conducted by several psychologists who emphasize the point that the human individual, from a very early age, is responsive to social factors in his life; he responds in a way that is far from simple or obvious; also what is simple or what is complex is not readily determined; for example, just how simple can a type of group participation or team work be regarded or employed as a unit of measurement (*Amer. J. Sociol.*, June). W. G. Beach has described *The Growth of Social Thought* (Scribners).

**Group Measurements.**—The recently invented curve of measurement of social conformity, called "the J-Curve," has been applied to situations such as obedience of traffic rules, promptness in attendance, and agreement in beliefs; F. H. Allport and R. S. Solomon tested the lengths of conversations in different situations, e.g., church, clubroom and library; a corresponding measure of annoyance was obtained, and the conformity motive seems to be that of avoiding annoyance to others, especially in the library study-room situation (*J. Abn. & Soc. Psych.*, Oct.). C. S. Ford has compiled an inventory of more than 200 behavior items according to their treatment by 25 primitive races in reference to prohibition, compulsion or inferred control; while there is great diversity among tribes regarding any particular act, such as eating, there is usually an internal consistency in the interpretation of the various acts (*J. Gen. Psych.*, Jan.). While E. A. Hooton's *Crime and the Man* (Harvard Univ.) consists largely of conclusions on anthropological measurements of 17,680 individuals, there is also much reflection about the social psychology or racial differences, in so far as any exist.

**Personality.**—Personality can be studied by a "projective method" which furnishes a clearer picture of the manageable traits involved than do many of the current analytical

classifications; thus, L. K. Frank believes that studies of the individual at work on expressive tasks, such as painting and play techniques, will give the most realistic criterion of personality traits; he also approves of the qualitative measurements obtained by the Rorschach ink-blot test (*J. Psych.*, Oct.). In testing levels of "aspiration," D. W. Chapman and J. Volkmann believed that they also found certain personality criteria of a constitutional, or physical sort, such as a dimension of hyper- and hypo-activity, "jumpiness," and "drive" (*J. Abn. & Soc. Psych.*, Apr.). People vary from time to time in their individual traits; in fact they vary about 80 per cent of the total range of difference between people: E. E. Ghiselli (*J. Appl. Psych.*, Aug.). Suggestive comments are found in A. H. Kamiat's *Social Forces in Personality Stunting* (Sci-Art).

**Auto Traffic.**—"Automobile drivers can be improved," says H. R. De Silva who discredits the notion that "accident prone" drivers can not improve themselves and therefore should be prohibited from driving; a knowledge of one's own shortcomings increases the efficient handling of an automobile (*Psych. Bull.*, Apr.). Have you ever considered "the normal driver as a traffic problem?" Records of 29,500 drivers showed that only 3.7 per cent of accidents could be attributed to the accident prone drivers (*i.e.*, those having at least two accidents in three successive years); thus it is seen that the important safety problem is for the traffic engineer to plan conditions to suit the normal capabilities of the majority of drivers (*J. General Psychology*, April).

**Practical Problems.**—Working men prefer an industrial layoff policy which will favor their own job; most of the 700 men who were questioned by D. McGregor desired to eliminate favoritism by the foreman and therefore selected a strict seniority rule (*J. Amer. Sociol.*, Apr.). Both physical and personal adjustments are considered by H. Thornton and F. Thornton in their book *How to Achieve Sex Happiness in Marriage* (Vanguard).

In ten years, social psychology has progressed from a fairly behavioristic formula to a science of "social culture," according to H. W. Wright who describes a set of norms or products which result from the collective efforts of individuals and which can be dealt with as scientific units (*Amer. J. Psych.*, Apr.). L. W. Doob and R. R. Sears show that a fighting attitude is modified into substitute behavior if there is strong anticipation of punishment for being aggressive, but is strongly present if there is very much frustration (*J. Abn. & Soc. Psych.*, July).

#### ABNORMAL

**Case Study.**—"What constitutes abnormality?" The critique offered by H. J. Wegrocki includes fundamentally different sorts of deviants from normal behavior: *e.g.*, the behavior of primitive peoples, behavior which is "not ego-determined," and behavior which reflects an abnormal cultural background (*ibid*, Apr.). In their book *The Troubled Mind* (Dutton), H. Roberts and M. N. Jackson give a flexible interpretation of various causes of mental disorder and weigh the good and bad qualities of such theories as the Freudian; they believe that motives and purposes can not be profitably treated on too deterministic a basis. A useful discussion of *Minor Mental Maladjustments in Normal People* (Duke Univ.) is presented by J. W. Wallin. P. W. Preu reviews the methods employed at the New Haven Clinic in his *Outline of Psychiatric Case-Study* (Hoeber). W. H. Mikesell has published a *Mental Hygiene* (Prentice-Hall).

**Hypnosis.**—Under hypnosis a person may appear to become color-blind; M. H. Erickson tested this condition with the Ishihara test and found induced symptoms which simulated either the red-green or blue-yellow blindness which could not be duplicated in the waking state; what these results indicate regarding the neurophysiology of color vision is not yet known (*J. Gen. Psych.*, Jan.). R. B. Winn reviews techniques and methods in his description of *Scientific Hypnotism* (Christopher); he

also recounts the uses to which hypnosis has been put.

**Therapy.**—Psychiatric therapy is progressing in the following ways: a balance between the use of special environments and direct analytical approaches (L. G. Lowrey); in "child analysis" the elimination of unconscious conflicts which cause antagonism to school work (H. S. Lippman); active participation by the patient in the therapeutic treatment (F. H. Allen); parent-child coordination for improvement of the relations between them (A. Dawley): (*Amer. J. Orthopsychiat.*, Oct.). How successful is the recently employed insulin and metrazol "shock" treatment of schizophrenic (dementia praecox) patients? E. D. Bond, J. Hughes, and J. Flaherty review the results in the State of Pennsylvania and J. R. Ross and B. Malzberg review the work in New York State: approximately one patient in four appears to maintain a condition of recovery after a year, and one out of three either recovers or improves (*Amer. J. Psychiat.*, Sept.). *New Ways in Psychoanalysis* (Norton) are explained by K. Horney.

**Social Aspects.**—R. E. Faris and H. W. Dunham have prepared a good statistical survey of the extent and nature of *Mental Disorders in Urban Areas* (Univ. of Chicago). Concerning the relation of radical political beliefs, neurotic temperament, and financial status, R. H. Gundlach found on a self-rating test that poverty is the strongest motive toward developing radical attitudes and also the development of emotional instability; however, the most radical individuals are not the most unstable (*J. Soc. Psych.*, Nov.). Chronic alcoholics show certain general personality characteristics in common; these are described by M. P. Wittman as including the following tendencies: chronic alcoholics come from large families; they have had a poor adjustment toward their mother; they show timidity toward the father; they are still dependent on the parental home; they possess a sense of guilt and are unadjusted sexually though heterosexual in their attitude (this finding contradicts recent claims by other

authors); and they are socially oversensitive (*J. Abn. & Soc. Psych.*, July).

#### SENSE PERCEPTIONS

**Vision.**—Women are superior to men in the ability to identify colors correctly, especially by a non-verbal, pointing method: P. H. DuBois (*Amer. J. Psych.*, July). When you rotate discs composed of various arrangements of black and white you obtain a fleeting visual impression of series of colors; this long known phenomenon is shown by M. B. Erb and K. M. Dallenbach to consist mainly of yellow and blue colors which move in various patterns of streaming and shimmering (*ibid.*, Apr.). F. L. Dimmick and M. R. Hubbard have rechecked the position on the spectrum of the primary colors according to the estimates of many observers; they state their determinations thus: yellow at 582 millimicrons, green at 515 and blue at 476; the "best" red is, of course, not found within the limits of the visible spectrum (*ibid.*); "unique" red requires 476 millimicrons added to a spectral red of 635 millimicrons (*ibid.*, July). A. Bartley shows that the experience of brightness involves neural functions other than the sense-cell photochemistry; in observing flicker, for example, responses are irregular to the presence of uniform flashes; also, latency is greater than the flash interval (*Psych. Rev.*, July).

**Hearing.**—E. G. Wever reviews the research for the past decade on the study of "the electrical responses of the ear"; he makes recommendations for accepting the "resonance-volley" theory as being best suited to explain most auditory phenomena (*Psych. Bull.*, March). Helmholtz's theory of hearing, according to which separate nerve fibers respond to particular tones, has been supported in a general review by L. A. Jeffers who declares that recent experimental conclusions, such as the "volley hypothesis," in which the summing of nerve impulses from fibers at different locations accounts for the resulting sounds, and S. S. Stevens' demonstration of the non-linear response to



equal steps of physical frequency, are evidences of the differential functions of the various segments of the basilar membrane in the inner ear (*Psych. Rev.*, March). E. Girden taught dogs to respond to sounds located at the left or the right of them; then certain portions of the brain were removed and evidence for "cerebral determinants of auditory localization" was sought; the severing of connections between the two halves of the brain did not disturb the right-left discrimination which depends on each of the temporal lobes by themselves (*Amer. J. Psych.*, Jan.).

**Other Senses.**—When cocaine is applied by electrolysis to the skin there is a decrease in the sensitivity to vibratory stimuli; other touch sensations also disappear but at different rates than the vibratory sense, indicating that the latter is a distinct modality: J. Weitz (*J. Exper. Psych.*, Sept.). A history of the study of pain and also the present status of its study is given by K. M. Dallenbach who asserts that pain is elicited by stimulation of the free nerve endings, and that a brain center for pain sensitivity is as yet unknown (*Amer. J. Psych.*, July). Cold spots, when stimulated, respond in an all-or-none fashion; some receptors, however, arouse a more vivid sensation than do others, according to W. L. Jenkins (*J. Exper. Psych.*, Nov.). Smell sensations are sometimes judged to occur in the other nostril than the one to which the stimulus has been applied; this condition has been found to occur in cases of tumors on one side of the brain: J. D. Spillane (*Brain*, June). Smokers seem to develop an increased preference for tartness in the sense of taste, according to D. A. Laird (*Med. Rec.*, Oct.).

**Time, Space, Movement.**—Boredom makes the passage of time seem longer than when one is interested in events; this was demonstrated by A. Berman who showed that, in learning a finger maze, the bored persons thought that they arrived at a state of mental satiety in a shorter time than actually occurred before they reported their boredom (*J. Exper. Psych.*, Sept.). Failure at a task

makes the time consumed seem 20 per cent longer than in successful tasks: J. J. Harton (*J. Gen. Psych.*, July). The recently developed topological psychology, which is a phase of gestalt psychology, has a distinctive language of its own; for example, the problem of perceived form is described in terms of the "vector-field" by W. D. Orbison who points out that familiar geometric illusions, such as a circle which is distorted when superimposed on radiating lines, can be expressed accurately in terms of the mathematical formulae of vector-analysis (*Amer. J. Psych.*, Jan.). Tactual movements in a diffuse field of touch stimuli occur in a manner similar to the long recognized "autokinetic" sensations of the field of vision; A. A. Schaeffer describes a number of such cutaneous movements, *e.g.*, as experienced in the shower bath (*J. Gen. Psych.*, Jan.).

#### FEELING AND EMOTION

**Feeling.**—W. A. Hunt has reviewed the "current approaches to affectivity"; he reports that Woodworth has translated pleasantness and unpleasantness into reactive attitudes of acceptance and rejection; Carr has called them "judgments"; McGeoch relates them as "meanings" to the learning process; many authors still assume that there is a special kind of conscious content; the most conspicuous aspect of the several views is the great diversity of opinion about this ever-elusive psychological process (*Psych. Bull.*, Dec.). How much do children enjoy swinging and whirling as compared with the feelings of older persons? S. Russo and K. M. Dallenbach tested persons ranging in age from five years to 21 years; over 50 per cent of those below ten years like to rotate and less than 25 per cent above 16 years like to do so; the shift in pleasantness occurs most sharply for those around 11 years; there was no difference in attitude between the sexes (*Amer. J. Psych.*, Jan.).

**Emotion.**—There is an important trend in the study of phenomena usually described as emotion, feeling and conflict to employ more accurate

behavioristic descriptions; evidence of this new approach is seen in the book by J. Dollard and others on *Frustration and Aggression* (Yale Univ.) in which the authors show the occurrence of neuromuscular components such as "instigators," "goal-responses," and "reinforcing effects" in the actual behavior of frustration and other responses. F. H. Lund has furnished an introductory text on *Emotions* (Ronald) which covers the general subject with an emphasis on physiology and on the educational effects of cheerful attitudes as contrasted with discouraging states, especially as these are aroused by praise and reproof. R. Lunger and J. D. Page say that college freshmen worry most about future success, next about hurting people's feelings then about the impression they make and about not working hard enough; the worriers were less well adjusted personally, according to the Bell Adjustment Scale (*J. Genet. Psych.*, June). N. F. Stump has shown that the "sense of humor" is not significantly related to intelligence tests or emotional maturity tests; in judging their own sense of humor students are found to be giving their main concern to their standards of aesthetics and social attitudes; verbal jokes were found to be superior to pictures in the measurement of humor (*J. Gen. Psych.*, Jan.).

**Aesthetics.**—Several attempts have been made to test the criteria for aesthetic standards which Professor Birkhoff proposed: his measure was a quotient of the degree of orderliness, divided by the complexity of a composition; most recently D. J. Wilson supports Pratt and Center's disproof of this measure as tested with the use of a series of polygons (*J. Abn. & Soc. Psych.*, July). The sources of artistic production in different epochs, cultures, and under different degrees of sensory handicap are described in V. Lowenfeld's book, *The Nature of Creative Activity* (Harcourt. Brace). The judgment of character from the form of the human face is as universal as it is unscientific; M. R. Samuels has made a recent test on the basis of the criteria

of Brunswick and Reiter on various dimensions of the face (these authors claim 88 per cent accuracy): using six schematized drawings of faces there was as high as 94 per cent agreement and as low as 55 per cent agreement among the judges; when the real faces of the persons were judged there was a slightly higher agreement; there is greater agreement on the whole pattern of the face than on any detailed portion (*Char. & Per.*, Sept.). Nursery school children show certain characteristics in their attempts at artistic drawing: mass is used more than line; much repetition is seen in the construction of rows, bands and concentricity; random lines were not frequent; most pictures fill the space uniformly; few were labelled: F. F. Ellsworth (*J. Gen. Psych.*, Apr.).

#### PHYSIOLOGICAL

**Brain.**—The cerebral cortex exercises a certain degree of control over the function of respiration, according to R. V. Gremmer *et al* who have found cases of injury to the motor nerves from the cortex and accompanying disturbances of breathing (*Arch. Neurol. & Psychiat.*, Nov.). Large amounts of brain tissue can be removed from the frontal lobes of man without any disturbance of general intelligence; cases of this sort are reported by D. O. Heff (*J. Gen. Psych.*, July). Bodily sensations in the rat have their localization in the front part of the cerebrum, but the sensitivity of the snout and feet is located elsewhere; the combined use of these senses makes their localization difficult to determine: D. E. Smith (*J. Comp. Psych.*, Oct.).

**Drugs.**—E. Gellhorn *et al* suggest that epinephrine may be useful as a depressant in the convulsions of epilepsy (*Arch. Neurol. & Psychiat.*, Nov.). "Benzedrine sulfate," the popularly used drug for increasing one's "pep," has been carefully tested by E. C. Reifenshtein and E. Davidoff who show that much variation occurs from individual to individual; even opposite effects appear in different people, so that generalizations about the drug are questionable (*Amer. J.*

*Psych.*, Jan.). Curare, a drug that paralyzes the voluntary muscles, has a different effect on muscles controlled by higher and lower brain centers; thus something akin to dual personality has been produced by its use in dogs: E. Culler (*ibid.*, Apr.). Alcohol affects efficiency to various degrees: L. C. Mead reports that it hinders an artificial language test, but not a simple finger-jerk conditioned response (*J. Gen. Psych.*, July). Cobra venom improves the acuity of one's vision, whereas opiates, such as morphine, have no effect; the cobra venom also enlarges the field of vision: D. I. Macht and M. B. Macht (*J. Exper. Psych.*, Nov.).

**Bodily Activities.**—Eleven schizophrenic patients were administered small dosages of metrazol; their electroencephalograms revealed a slowing of the "alpha" rhythms; large waves appear during seizures, and at cessation of the convulsions a low rhythm, as in sleep, appears: M. A. Rubin and C. Wall (*J. Neurol. & Psychiat.*, Apr.). G. Kreezer again shows that the encephalograms of idiots do not differ greatly from those of normal intelligence; there is less amplitude of the alpha waves in the feeble-minded (*Amer. J. Psych.*, Oct.). R. A. McFarland *et al* have shown that different amounts of illumination do not affect the rate of basal metabolism or pulse, as claimed by certain illumination engineers; after two hours of reading the pulse rate is lower under any level of illumination (*J. Exper. Psych.*, Sept.). C. Landis and W. A. Hunt offer a complete study of *The Startle Pattern* (Farrar & Rinehart).

#### ANIMAL

**Drive.**—Hunger will continue to act as a drive for rats after the sensory nerves from the stomach have been cut; K. W. Bash believes that this continued influence is due to lifelong habits of the animal and possibly to a general feeling of weakness (*J. Comp. Psych.*, Aug.). Punishment has positive effects in some animal experiments depending on the type of results prepared for; W. Brown cites cases in which animals will immediately and definitely choose a dis-

tinctly different approach, such as a long alley instead of a previously preferred short alley, to a goal (*ibid.*). K. U. Smith and M. F. Smith show that a thirst drive in the cat is equally intense with various degrees of lack of water content in the body (*J. Gen. Psych.*, July).

**Growth.**—By restricting the diet of infant rats both the course of the bodily development and the building of habits can be delayed: orientation to light, the first startle response, and later, the sex behavior of the males, was postponed (*J. Comp. Psych.*, Aug.). Starfish possess a nerve ring about their central oral cavity; if this ring is cut there is a loss of coordination in locomotion and in righting, but A. R. Moore shows that in a few weeks this "aganglionic central nervous system" can recover from the cutting, and the animal will again perform normally (*ibid.*, Nov.).

**Neurosis.**—The widely observed cases of "experimental neurosis" in which animals, due to frustrations or the forcing of excessively fine discriminations, become very jumpy or very passive, has been extended to a study of cats by F. L. Dimmick *et al*, who use a method of excessive restraint to arouse neurotic symptoms (*ibid.*, Aug.). In addition to the now well-known film on the neurotic behavior of rats, N. R. F. Maier has written a book on *Studies of Abnormal behavior in the Rat* (Harper).

#### LEARNING

**Skill.**—The acquisition of skill has been studied from several approaches; 20 years ago Dr. Gilbreth led the way to its careful analysis; on a more physiological basis Professor Dodge studies the specific muscles involved; L. D. Hartson has derived from the various studies the basic factors recognized in all of them; these include: the dynamic nature of posture, the economy of ballistic contractions (*i.e.*, when a limb is thrown so that the contraction ceases before the completion of the excursion), cursive rather than angular movements, and rhythmic movements; in learning a



skilled act the form of motion is more important than accuracy (*J. Gen. Psych.*, Apr.).

**Conditioned Responses.**—Usually it is thought that, in the process of conditioning, the conditioning stimulus substitutes completely for the original, or unconditioned, stimulus; an important qualification is indicated by W. J. Brogden who says that, only in a "reenforcing capacity," does the unconditioned stimulus become a substitute; by giving cats food as the substitute to electric shock in order to cause foot flexion the dual role of the conditioning stimulus was demonstrated (*Amer. J. Psych.*, Jan.). The "extinctive process" in conditioned responses is delineated by G. Razran in terms of the decrement of action; an asynchronization of stimulus and the response, a reverse conditioning, and an inverse conditioning (*i.e.* a stimulus may become a safety signal instead of a danger signal), and a redirected conditioning have each been shown to cause apparent extinction (*Psych. Rev.*, March).

**Memory.**—How does sleep affect one's memory? E. B. Newman established memories for short stories in persons who were tested at various intervals of waking and sleeping; it was found that ideas essential to the plot of a story are reproduced equally well after intervals of sleep and wakefulness (87 per cent compared with 86 per cent), but the non-essential items are reproduced twice as well after sleep; this indicates the organizing character of the mind during waking states in producing retroactive inhibition and a selective type of forgetting (*Amer. J. Psych.*, Jan.). When a person's muscles are tensed the ability to memorize is increased; F. A. Courts demonstrated this by memorizing syllables while squeezing a hand dynamometer (*J. Exper. Psych.*, Sept.). V. A. Anderson finds that persons with a better memory for speech sounds makes better grades on foreign language tests, but those with better memory for digits are superior on tests of general intelligence (*Amer. J. Psychology*, January).

## THOUGHT

**Mechanisms.**—Thought is considered from two aspects by J. Rosett in his book *Mechanism of Thought, Imagery and Hallucination* (Columbia Univ.), who lists (1) the fundamentals, and (2) the mechanisms; the neurological basis is described in terms of the experiments of the Sherrington School; the disturbances of these mechanisms, as in epilepsy, are explained; the relation of thinking to the emotions and the autonomic nervous system is included. When one is convinced of certain arguments one will remember them better than unconvincing facts; thus, W. S. Watson and G. W. Hartmann measured the degree of retention of theistic and atheistic propositions in comparison with the beliefs of the subjects (*J. Abn. & Soc. Psych.*, July). Thinking and learning involve similar elements; each shows a "means-end-readiness" which leads to specific acts representing solutions; the solution-act, repeated, becomes habitual: K. Duncker and I. Krechevsky (*Psych. Rev.*, March).

**Attention.**—It takes physical effort to pay attention to something in the presence of compelling distractions; the extent of this effort has been measured by G. L. Freeman in the following way: the oxygen consumption was tested and also the action-potential of the four limbs; at first, distraction represents a temporary unbalance of bodily economy in adjusting to the double task, but soon an adjustment and a compromise develops which reduces the energy expenditure (*Amer. J. Psych.*, July).

## INTELLIGENCE

**Individual Differences.**—The book by A. R. Gilliland and E. L. Clark on *The Psychology of Individual Differences* (Prentice-Hall) discusses physical, personal, and cultural differences; they distinguish between the environmental effect of "near ancestry" and pure heredity; the differences in learning and teaching indicate the need for "flexible promotion" in the schools; the individual differences of governments are also discussed. R. H. Seashore points out



that many individual differences are due to the characteristics of the "work methods" employed; with a weak goal some form of "substitution" may be used, or a repressive method of negativism or regression may be invoked (*Psychology Review*, March).

**Testing.**—Following the trend of Thorndike, Terman, and others in giving greater consideration to the mental testing of mature persons, D. Wechsler has published *The Measure of Adult Intelligence* (Williams & Wilkins). Many mothers desire an intelligence test for infants; several such tests have been devised, but give poor predictability in terms of other tests administered a year or so later; D. Anderson offers an improved battery for testing infants aged 3, 6, 9, 12, 18 and 24 months (*Child Dev.*, Sept.). The influence of heredity on intelligence is demonstrated by C. H. Towne in a study of 141 different families: *Familial Feeble-mindedness* (Foster & Stewart). F. S. Salisbury's *Human Development and Learning* (McGraw-Hill) reviews the various theoretical approaches to the study of intelligence and its measurement. Is musical talent hereditary? R. S. Friend finds parent-child similarities closer than the child's talent and the environmental opportunities (*J. Appl. Psych.*, June).

**Student Problems.**—The accumulation of techniques employed in the guidance of high school and college students are reviewed by E. G. Williamson in his book *How to Counsel Students* (McGraw-Hill). College students are as much influenced by their father's vocational and ethical attitudes as by their college contacts; this relation with paternal attitudes is closest for the sons of clergymen: E. Nelson (*J. Abn. & Soc. Psych.*, Apr.). A. T. Jersild and M. D. Fite discuss *The Influence of Nursery School Experience on Children's Social Adjustments* (Columbia Univ.). C. R. Rogers reviews his experiences in *The Clinical Treatment of the Problem Child* (Houghton Mifflin). P. M. Symonds offers *The Psychology of Parent-Child Relationships* (Appleton-Century).

## BUSINESS

**Salesmanship.**—The problems of selling are stressed in H. Moore's book *Psychology for Business and Industry* (McGraw-Hill); problems of personnel management are also discussed. C. I. Hoveland and E. F. Wunderli show how a standardized measure may be constructed for use in predicting industrial success (*J. Appl. Psych.*, Oct.).

**Consumer Research.**—In consumer research the following precautions are given by S. Roslow and A. B. Blankenship for phrasing a questionnaire: (1) opening question creates rapport; (2) unambiguous; (3) concrete, not abstract; (4) let interviewee express himself; (5) note effect of context; (6) relate text to interviewee's background; (7) note effect of extremes or extreme alternatives; (8) note influence of check-lists in contrast to free recall; numerous examples are cited (*ibid*).

**Radio Research.**—P. F. Lazarsfeld is director of the radio research program at Princeton University; in a review of current work, H. P. Longstaff describes some questionnaires which will determine the entertainment value of programs and the optimal time of day and week for their presentation; F. R. Constant discusses special features and their appropriate use, including various types of voices, dramatic personalities, guest stars, music, etc.; E. Smith cites examples of the effect of public prejudices upon their response to certain radio performances, *e.g.*, listeners tend to prefer the quality of voice furnished by their favorite political leader (*ibid*, Feb.).

**Law.**—The relationship between law and psychology is still inadequately adjusted: for example, C. P. Obendorf cites the case of a man who, while under treatment with a psychiatrist, was arrested for offensive behavior, and in his trial a highly regarded attorney (friend of the man's parents), a "slick" lawyer (who conducted the defense), an estimable judge, and a second judge, all ignored any possible psychiatric implications in the man's case (*J. Crim. Psychopath.* July).

# PHILOSOPHY

## PHILOSOPHY

BY CHESTER TOWNSEND RUDDICK

AUTHOR AND LECTURER

### GENERAL

Perhaps as good an index as any to the current trends in Philosophy is to be found in the programs of meetings of the philosophical associations. So far as philosophic interest in philosophic problems is concerned, the year 1939 showed no marked deviation from the tendencies of the recent past. Papers read at the 15th annual meeting of the Pacific Division of the American Philosophical Association at the University of California, Berkeley, Dec. 28-30, 1938, were scattered over the whole field. The Eastern Division, holding its 38th annual meeting at Wesleyan University, Dec. 28-30, 1938, devoted one session to "History of Philosophy," one to symbolic logic, one to studies of Aristotle, and one to "Conceptions of Dialectic."

There is one topic which received attention at a number of meetings and reflected a practical interest in a very practical problem for philosophers, who must, most of them, be concerned in one way or another with the teaching of their subject. Thus, at the 40th annual meeting of the Western Division of the American Philosophical Association, held at the University of Missouri, April 20-22, 1939, one session dealt with "The Place of Philosophy in Higher Education," including "Philosophy and the Changing Curriculum" by M. ten Hoor, "Philosophy and the College Student" by M. C. Otto, and "The Role of Philosophy in Political and Social Change" by M. T. McClure. Also, at the 34th annual meeting of the Southern Society for Philosophy and Psychology at Duke University, April 7-8, 1939, Mr. ten Hoor discussed a similar subject. The Southwestern Philosophical Conference, meeting at Southern Methodist University, Dec. 28-30, 1938, included in its program five papers on "The Teaching of Philosophy," one of them being on "Philosophy and the College

Curriculum" by P. A. Carmichael. And at the fifth annual meeting of the North Carolina Philosophical Society at Meredith College, April 29, 1939, where the general subject was "Religion and Philosophy of Religion in the College Curriculum," there was one paper on "The Place of Philosophy in the Curriculum" by B. A. Wentz.

So philosophers very definitely feel that they and their endeavors are not their concern alone, and that some of their efforts must be devoted to a clarification of their relationship with at least so much of the rest of the world as is brought most often in contact with them.

### TEXTS AND SOURCE BOOKS

The publication of several volumes of source material suited for classroom use is important as an indication that the tendency toward first-hand contact with philosophical classics, increasingly more noticeable in recent years, is becoming deeper-rooted and more widespread. Two of these source-books are in popular inexpensive editions: The Modern Library presents *The English Philosophers from Bacon to Mill*, edited by E. A. Burtt, and Everyman's Library now includes *Thomas Aquinas: Selected Writings*, edited by Rev. Fr. M. C. D'Arcy. G. P. Adams and others are the editors of *Selected Writings in Philosophy*, a new volume in the Century Philosophy Series (Appleton-Century) which will supplement their recent book in the same series, *Knowledge and Society*. Bakenwell's *Source-Book in Ancient Philosophy* (Scribners) appears in a new edition with added material. There is also a translation of a hitherto almost inaccessible work, *St. Bonaventura: On the Reduction of the Arts to Theology* (St. John's Book Store, Annapolis, Md.)

Along with these sources come A

*Guide to Readings in Philosophy* by R. Hope (Edwards Brothers), and an *Introduction to the History of Philosophy* by J. B. Burgess (McGraw-Hill). The latter treats of philosophy by types, is quite informal in style, and devotes much space to the lives and personalities of philosophers. In the Students' Outline Series (Longmans, Green) there appears a *Visual Outline of Philosophy* by J. F. Bentley.

The philosophy of John Dewey is presented by selection, with introductory discussion by J. Ratner, in *Intelligence and the Modern World* (Modern Library, Random House).

Another source-book of importance and interest is *Philosophy in America: From the Puritans to James* by P. R. Anderson and M. H. Fisch (Century Philosophy Series, Appleton-Century). Introductory essays and biographical notes supplement an anthology of important writings. V. L. Parrington also discusses *Main Currents in American Thought* (Harcourt, Brace).

G. E. G. Catlin's *Story of the Political Philosophers* (McGraw-Hill) begins before Plato and continues through Lenin. Each philosopher is oriented in his time and place, and extensive quotations develop the fundamental views of all of them. A handbook in the same field is presented by P. W. Ward: *A Short History of Political Thinking* (Univ. of North Carolina).

Two new text books have appeared in Logic. *Formal Logic: A Modern Introduction* by A. A. Bennett and C. A. Baylis (Prentice-Hall), brings the student in contact with logical symbolism and system. The other, quite informal, text treats logic as a game: *The Rhyme of Reason: A Guide to Accurate and Mature Thinking* by R. W. Holmes (Appleton-Century).

#### HISTORY OF PHILOSOPHY

That the problems of the historian are vital and important is a point brought sharply to mind by recent discussions of them. M. Mandelbaum, in *The Problem of Historical Knowledge* (Liveright), analyzes var-

ious theories in order to develop the significance of the present crisis in historiography, and proposes a theory of "historical pluralism" which opposes the views of the relativists. S. P. Lamprecht, discussing "Historiography of Philosophy" (*Journal of Philosophy*, XXXVI, 16), finds it to be "the prelude to a philosophy of philosophy." A paper by J. H. Randall, Jr., "On Understanding the History of Philosophy" (*ibid.*), stresses the functional structure of means and ends revealed in this history, and makes the objectivity of historical knowledge depend upon this teleological context. These two papers were read in a symposium at the 1938 meeting of the Eastern Division of the American Philosophical Association. A. O. Lovejoy, discussing "the nature of the present determinants which control the historian's selection, interpretation and reconstruction," stresses the importance of being a realist about history: "Present Standpoints and Past History" (*J. Phil.*, XXXVI, 18).

Historical research itself is represented more in short articles than in books. One of the important systematic and comprehensive works is *The Philosophy of Plato* by R. Demos (Scribners). The same philosophy is discussed by R. H. S. Crossman: *Plato Today* (Oxford), introduction by R. Niebuhr. C. B. Garnett, Jr., writes on *The Kantian Philosophy of Space* (Columbia Univ.). A. D. Winspear and T. Silverberg, in *Who Was Socrates?* (Cordon Co., N.Y.), present the Socratic thought as influenced by economic, political and social conditions of his time. Other books include R. R. Palmer's *Catholics and Unbelievers in Eighteenth Century France* (Princeton Univ.) and E. Gilson's *Reason and Revelation in the Middle Ages* (Scribners), the latter containing the Richards Lectures at the University of Virginia for 1938.

There are a number of historical articles to be mentioned. I. Husik and W. D. Ross discuss "The Authenticity of Aristotle's Categories" (*J. Phil.*, XXXVI, 16). J. R. Mattingly's "Early Stoicism and the



Problem of its Systematic Form" (*Philosophical Review*, XLVIII, 3) is a very technical analysis. J. C. Fenton's "The Opusculum 'De Motione Primi Motoris'" (*New Scholasticism*, XIII, 3) treats of a work valuable for the history of Thomistic philosophy; likewise A. Landgraf's "The First Sentence Commentary of Early Scholasticism" (*New Schol.*, XIII, 2).

O. A. Kubitz studies Descartes' relationship with Mersenne in "Scepticism and Intuition in the Philosophy of Descartes" (*Phil. Rev.*, XLVIII, 5). O. Lee, in "Method and System in Hegel" (*Phil. Rev.*, XLVIII, 4), finds Hegel's attempt to combine method and system to be "his chief contribution to philosophy." The philosophy of Edmund Husserl is discussed by K. G. Hamilton: "Edmund Husserl's Contribution to Philosophy" (*J. Phil.*, XXXVI, 9), and notes concerning Husserl are contributed in the same journal by W. P. Montague, C. Hartshorne, A. D. Osborn, D. Cairns and H. L. Friess.

K. Britton's "Introduction to the Metaphysics and Theology of C. S. Peirce" (*Ethics*, XLIX, 4) is informal, dwelling upon Peirce's life and background and early interests. O. F. Kraushaar discusses "Lotze as a Factor in the Development of James' Radical Empiricism" (*Phil. Rev.*, XLVIII, 5). In "The Existential Dialectic of Søren Kierkegaard" (*Ethics*, XLIX, 3), D. F. Swenson shows how this doctrine provides for an existence to be discovered only by the "subjective thinker."

Reasons why the philosophy of the East should not be neglected are pointed out by H. H. Dubs in "The Present Significance of Oriental Philosophies" (*Philosophical Review*, XLVIII, 3).

Among translations of importance to scholars in the field are *Maimonides' Treatise on Logic*, with the original Arabic and three Hebrew translations, by I. Efross (Proceedings of the American Academy for Jewish Research); *Frivolities of Courtiers and Footprints of Philosophers*, a translation of parts of the "Poliratus" of John of Salisbury by J. B.

Pike (Univ. of Minnesota); and two new volumes in the Loeb Classical Library: *Aristotle: On the Heavens*, translated by W. K. C. Guthrie, and *Philo*, with a translation by F. H. Colson and G. H. Whitaker (Harvard Univ.). There is also a translation of Kant's *Perpetual Peace*, with an introduction by Nicholas M. Butler (Columbia Univ.).

# METAPHYSICS AND EPISTEMOLOGY

Three new books are to be noted as systematic contributions to philosophy as metaphysics. They are *Reality* by P. Weiss (Princeton Univ.), *Naturalism* by J. B. Pratt (Yale Univ.), and *Toward a Dimensional Realism* by C. M. Perry (Univ. of Oklahoma). The last, recognizing the multidimensionality of philosophical problems, considers the possibility of there being more than one systematic approach. Another book is C. J. McFadden's *Metaphysical Foundations of Dialectical Materialism* (Catholic Univ. of America).

R. T. Flewelling, in "Three Windows into Reality" (*Phil. Rev.*, XLVIII, 2), finds that none of the three, which are science, philosophy and religion, eliminates the self. The immediate apprehension of indefinables is the subject of F. F. Wolff's "Concept, Percept, and Reality" (*Phil. Rev.*, XLVIII, 4). N. P. Stallknecht bases his argument "In Defense of Ontology" (*J. Phil.*, XXXVI, 2) on the significance of the human act. J. J. Toohey examines the meanings of "Reality and Truth" (*Phil. Rev.*, XLVIII, 5). E. B. McGilvary, discussing "Relations in General and Universals in Particular" (*J. Phil.*, XXXVI, 1, 2), makes a relation find its meaning in its "synthetic whole."

Progress, which at best is tragic, is both a fact and an ideal, according to J. E. Boodin in "The Idea of Progress" (*J. of Social Philosophy*, IV, 2). In "Habit, Fact, and Value" (*J. Phil.*, XXXVI, 19), G. Boas finds that habit erects the bridge between the other two. J. R. Reid insists that a definition must be social as well as clear and unambiguous and thereby reveals



a dilemma: "The Dilemma of Definition" (*J. Phil.*, XXXVI, 19). Man's pursuit of happiness and security is the original source of inspiration to which philosophy must descend, urges R. B. Winn, discussing the question, "Is Nature Rational?" (*Philosophy of Science*, VI, 3). W. Seifriz, a biologist, presents "A Materialistic Interpretation of Life" (*Phil. of Sci.*, VI, 3).

Contributions to epistemology include a series of three articles by A. F. Bentley: "Sights-Seen as Materials of Knowledge," "Situational Treatments of Behaviour," and "Postulation for Behavioral Inquiry" (*J. Phil.*, XXXVI, 7, 12, 15). The first proposes a new "method of inspecting the simplest factual situations that enter behavioral inquiry" and the other two develop the method and its uses. Other articles to be mentioned are H. Miller's "The Dimensions of Particular Facts" (*J. Phil.*, XXXVI, 7), C. D. Hardy's "Our Knowledge of Other Minds" (*Phil. of Sci.*, VI, 3), C. A. Strong's "The Sensori-Motor Theory of Awareness" (*J. Phil.*, XXXVI, 15), O. L. Reiser's "Gestalt Psychology and the Organic Theory" (*J. of Soc. Phil.*, IV, 3), and W. T. Stace's "Novelty, Indeterminism and Emergence" (*Phil. Rev.*, XLVIII, 3). Two more articles deal with problems of emergence: "The Theory of Emergence," by R. Ablovitz, and "Emergence without Mystery," by W. M. Malisoff (both in *Phil. of Sci.*, VI, 1). "Firstness" by B. W. Brotherston (*J. Phil.*, XXXVI, 20) is a discussion of thoroughgoing empiricism and the "firstness" of the pragmatists.

F. S. Cohen, writing on "The Relativity of Philosophical Systems and the Method of Systematic Relativism" (*J. Phil.*, XXXVI, 3), emphasizes the important point that "statements which, if made within the same system, would be incompatible propositions, may be both true in two different but compatible systems." E. Nagel's "Probability and the Theory of Knowledge" (*Phil. of Sci.*, VI, 2) is a critical review of H. Reichenbach's *Experience and Prediction* (Chicago, 1938).

### THOMISM

The appearance in April, 1939 of a new journal devoted to the Thomistic Philosophy seems to have inspired a greater number of papers in this field. The journal is *The Thomist: A Speculative Quarterly Review*, edited by the Dominican Fathers of St. Joseph's Province and published by Sheed and Ward. Articles are intended to be speculative rather than historical or textual.

Two of them deal with broader aspects of Thomism. R. E. Brennan, in "The Mansions of Thomistic Philosophy" (*Thomist*, I, 1), deals with the problem of ordering the parts of philosophy. In "Thomism as a Frame of Reference" (*Thom.*, I, 2), D. C. O'Grady finds that a philosophy differs from mathematical or physical reference systems in that it must be rooted in reality. Other articles of interest are "The Thomistic Doctrine of the Unity of Creation" by L. J. Eslick (*New Schol.*, XIII, 1), "The Philosophical Approach to God in Thomism" by H. Carpenter (*Thom.*, I, 1), and "Scientific Cognition of Truth: Its Characteristic Genius in the Doctrine of St. Thomas Aquinas" by M. Grabmann (*New Schol.*, XIII, 1). This last is by a German writer and is translated by C. V. Bostnagel. A series of "Problems for Thomists" by M. J. Adler runs through the year's issue of *The Thomist*.

### PHILOSOPHY OF SCIENCE

The year 1939 seems to have brought fewer contributions to Philosophy of Science than any of the last few years, during which its importance had seemed to be increasing, until last year. Among the books most closely related to this field are to be noted the following: C. C. Pratt's *The Logic of Modern Psychology* (Macmillan), which contains two chapters on operationism in psychology and treats psychology as a science intimately related to physiology; A. D'Abro's *The Decline of Mechanism in Modern Science* (Van Nostrand), a survey of science which reveals the decline in a positive way rather than by philosophical arguments; W. Köhler's *The Place of*

*Value in a World of Facts* (Live-right), which finds value to be a fact having an important bearing upon science, yet not one of the facts with which science can deal; and *Causality in Current Philosophy*, edited by C. A. Hart, which is Volume XIV of the Proceedings of the American Catholic Philosophical Association.

The place of synopsis in scientific method is discussed by L. W. Beck in "The Synoptic Method" (*J. Phil.*, XXXVI, 13). H. C. Fries, in "Physics, a Vicious Abstraction" (*Phil. of Sci.*, VI, 3), develops certain implications of the operational nature of meaning and relativity of truth for science. "Probability, Many-Valued Logics, and Physics" by H. Margenau (*Phil. of Sci.*, VI, 1) analyzes the processes leading to scientific prediction and attempts to evaluate certain theories of probability, and considers the relation of many-valued logic to physics. A. G. Ramsperger considers the general question, "What is Scientific Knowledge?" (*Phil. of Sci.*, VI, 4).

Two articles are particularly interesting because they represent a broadening of interest in the field of philosophy of science to include a science not so frequently discussed from the philosophic point of view. They are "The Place of Theory in Anthropological Studies" by C. Kluckhohn, and "Research Procedure and Laws of Culture" by A. Lesser (both in *Phil. of Sci.*, VI, 3).

There is much less than usual to report in recently active field of Logical Positivism. Problems which concern the movement in general receive some attention. A. C. Benjamin, with his article "What is Empirical Philosophy?" (*J. Phil.*, XXXVI, 19), joins the discussions of S. P. Lamprecht, P. A. Bertocci and J. B. Pratt (see *J. Phil.*, XXXVI, 10). W. Barrett, in "Logical Empiricism and the History of Philosophy" (*J. Phil.*, XXXVI, 5), finds that the humanistic side of philosophy has been important in shaping its course. Two papers deal with a specific problem of special significance to positivistic doctrine. C. G. Hempel, in "Vagueness and Logic" (*Phil. of Sci.*, VI, 2) declares that "vagueness is strictly semiotic:

there is no analogue to it on the purely syntactic-semantical level, on which the logical principles of language are established." One conclusion is that logical structure can be modified to eliminate the vagueness of symbols. "Border-Line Cases, Vagueness, and Ambiguity" by I. M. Copelowish (*ibid.*) attempts the reduction of vagueness to a special case of ambiguity. The same subject is discussed in general by A. C. Benjamin in "Science and Vagueness" (*Phil. of Sci.*, VI, 4).

#### THE UNITY OF SCIENCE

Perhaps the efforts of many of those most interested in Philosophy of Science and in Logical Positivism have been absorbed in the production of the *International Encyclopedia of Unified Science* (Univ. of Chicago). So far six monographs have appeared in Volume I of the section bearing the general title *Foundations of the Unity of Science*. Numbers 1 and 2, *Encyclopedia and Unified Science* by O. Neurath and *Foundations of the Theory of Signs* by C. W. Morris, were reported last year. The other four which have appeared are No. 3, *Foundations of Logic and Mathematics* by R. Carnap, No. 4, *Linguistic Aspects of Science* by L. Bloomfield, No. 5, *Procedures of Empirical Science* by V. F. Lenzen, and No. 6, *Principles of the Theory of Probability* by E. Nagel. Of these six the second and last are particularly acceptable as much needed, not too technical, introductions to their subjects. In Volume II of this section of the *Encyclopedia* there is, as No. 4, John Dewey's *Theory of Valuation*. In all, 20 monographs are to deal with Foundations of the Unity of Science. Another unit of the *Encyclopedia* is being planned to contain 60 monographs having to do with the method of science. Announcement has been made that the journal *Erkenntnis* will be continued, beginning with Volume VIII, as *The Journal of Unified Science*. Editors are R. Carnap and H. Reichenbach; publishers, W. P. Van Stockum and Zoon, The Hague, Holland, and American agents, University of Chicago

Press. A *Library of Unified Science* has also been organized and will be published at the same place.

The Fifth International Congress for the Unity of Science met at Harvard University, Sept. 3-9, 1939. There was no central theme, but papers covered topics relating to various aspects of science and philosophy. Joint sessions were held with the History of Science Society and the Association for Symbolic Logic.

### LOGIC

Besides the texts already mentioned there is one book of a systematic nature which should interest logicians. *The Structure of Aristotelian Logic* by J. W. Miller (Routledge) is concerned with those elements in the classical logic which have seemed to most logicians to stand in the way of its development as a completely general symbolic system.

Contributions in Logic are naturally of two sorts. Some treat of various aspects of the older logical doctrines, others represent research in modern symbolic logic. In the former category are H. J. Tallon's article on "Russell's Doctrine of the Logical Proposition" (*New Schol.*, XIII, 1), J. Buchler's discussion of "Peirce's Theory of Logic" (*J. Phil.*, XXXVI, 8) which finds Peirce to have held some quite modern ideas on logic, and L. J. Eslick's "Grammatical and Logical Form" (*New Schol.*, XIII, 3) in which grammar is found to be related to logic "as the lower art to the higher." V. J. McGill's article "Concerning the Laws of Contradiction and Excluded Middle" (*Phil. of Sci.*, VI, 2) discusses the place of the laws of thought in logical systems and the possibility that a "dialectical" logic applies where dichotomies are impossible. There is also "A Symposium of Reviews of John Dewey's *Logic: the Theory of Inquiry*" by E. B. McGilvary, G. W. Cunningham, C. I. Lewis and E. Nagel (*J. Phil.*, XXXVI, 21) and an article on "Dewey's Doctrine of the Situation" by W. Thomas (*ibid.*).

Among the contributions to symbolic logic are the following: "An informal exposition of proofs of Gödel's

theorems and Church's theorem" and "Definition by induction in Quine's *New Foundations for Mathematical Logic*," both by B. Rosser (*J. for Symbolic Logic*, IV, 2); "Symbols, signs, and signals" by C. J. Ducasse (*ibid.*); "A theorem on deducibility for second-order functions" by C. H. Langford (*ibid.*); and "On the independence of the axioms of definiteness" by A. Robinson (*ibid.*).

### ETHICS

Few books on Ethics have appeared in 1939. John Dewey's *Theory of Valuation*, a monograph in the *International Encyclopedia of Unified Science* (Univ. of Chicago) has already been mentioned. Ethics from the point of view of Logical Positivism is presented to American readers in D. Rynin's translation of M. Schlick's *Problems of Ethics* (Prentice-Hall). Two non-technical books are *Morals for Moderns* by R. A. Habas (Live-right) and *Morals of Tomorrow* by R. W. Sockman (Harper).

M. Picard's article on "Intrinsic Value and Intrinsic Good" (*J. Phil.*, XXXVI, 10) concludes that a judgment of the former requires little if any proof, while the latter is not susceptible of proof at all but rests on faith or revelation. E. W. Hall, in "The Arbitrary in Ethics" (*J. Phil.*, XXXVI, 14), distinguishes between the "ethically arbitrary" and the "morally arbitrary." L. K. Frank finds that any reasonable goals for man must be consonant with the evolutionary time-perspective of his past: "Time Perspectives" (*J. of Sci. Phil.*, IV, 4). A proposal to model a general ethics on the practical ethics of research is made by W. M. Malisoff in "Virtue and the Scientist" (*Phil. of Sci.*, VI, 2). "Conscience, Tolerance, and Moral Discrimination" by A. E. Murphy (*Ethics*, XLIX, 3) is an examination of T. V. Smith's *Beyond Conscience* (McGraw-Hill).

A number of papers deal with problems of responsibility and obligation. These include H. W. Schneider's "Moral Obligation" (*Ethics*, L, 1), W. Farrell's "The Roots of Obligation" (*Thom.* I, 1), a Thomistic analysis, J. A. Clark's "The Structure of



Responsibility" (*Ethics*, XLIX, 4), and V. C. Aldrich's "The Ethics of Shame" (*Ethics*, L, 1). A paper by H. Gomperz on "Individual, Collective, and Social Responsibility" (*Ethics*, XLIX, 3) concludes that "the statement that men can be held responsible solely for individual conduct freely willed is certainly wrong."

### SOCIAL AND POLITICAL PHILOSOPHY

Three books of interest are *The Development of Political Theory* by O. von Guericke (W. W. Norton), *Political Philosophies* by C. C. Maxey (Macmillan), and *What is Democracy? Its Conflicts, Ends, and Means*, a reprinting of three articles by J. Dewey, B. H. Bode and T. V. Smith (Cooperative Books, Norman, Okla.).

Problems of general import in the field are discussed by G. H. Sabine in "What is Political Theory?" (*J. of Politics*, I, 1) and by T. I. Cook in "Science: Natural and Social" (*Phil. of Sci.*, VI, 3). The latter is concerned with the effect upon social science of its attention to methods and procedures of natural science.

Political ideologies receive critical attention from A. G. A. Balz in "The Indefensibility of Dictatorship and the Doctrine of Hobbes" (*J. Phil.*, XXXVI, 6), and from M. C. Swabey, in "Leading Myths of Our Time" (*Ethics*, XLIX, 2). G. Husserl, in "The Political Community versus the Nation" (*Ethics*, XLIX, 2), distinguishes between the two in a way that makes the latter depend upon the first. S. Hook's "Dialectic in Social and Historical Inquiry" (*J. Phil.*, XXXVI, 14) is concerned with the ambiguity which the term "dialectic" has taken on.

"Social Unity and the Individual" are discussed by C. C. Miltner (*Thom.*, I, 1) and "History as the Struggle for Social Values" by J. A. Leighton (*Phil. Rev.*, XLVIII, 2). This last is the presidential address to the 1938 meeting of the Western Division of the American Philosophical Association. R. Bain would "replace rationalized thinking about societal phenomena by operational scientific thought": "Freedom, Law

and Rational Social Control" (*J. of Soc. Phil.*, IV, 3).

Helen S. Mims discusses "Early American Democratic Theory and Orestes Brownson" (*Science and Society*, III, 2). "Pragmatism Reconsidered: An Aspect of John Dewey's Philosophy" by V. J. McGill, (*Sci. and Soc.*, III, 3) is a survey of Mr. Dewey's more recent writing, with particular regard to his discussions of democracy and Soviet communism.

### AESTHETICS

Contributions having to do with beauty and art in one form and another appear in books as often as in articles. R. W. Church presents *An Essay on Critical Appreciation* (Cornell Univ.), in which he argues that technique, form and expression are fundamental categories independent of any metaphysical "Idea" of beauty. In *The Psychology of Art* by R. M. Ogden (Scribners) aesthetics is treated as an objective science. Other books are *Aesthetic Motive* by E. Schneider (Macmillan), and *St. Augustine's Philosophy of Beauty* by E. Chapman (St. Michael's Medieval Studies. Sheed and Ward).

H. N. Lee, in "Esthetics and Epistemology" (*J. Phil.*, XXXVI, 11), argues that the conceptual element in knowledge is not given, but derived by a constructive activity of the mind working with what is given in intuition. Aesthetic communication is discussed by G. W. Beiswanger in "Communication, Propaganda, and Form" (*Ethics*, XLIX, 4). R. F. Fleming writes "Of Contrast between Tragedy and Comedy" (*J. Phil.*, XXXVI, 20) and H. M. Kallen offers a brief discussion of "Beauty and Use: A Pragmatic Interpretation" (*Phil. Rev.*, XLVIII, 3).

### RELIGION

Several books by philosophers treat of religion in one way and another. E. A. Burt's *Types of Religious Philosophy* (Harper) is a critical analysis of methods of religious knowledge formulated by types. J. W. Hudson considers the "demands" which must bring about a revival of interest in Religion: *The Old Faiths Perish: An*



## XXIV. PHILOSOPHICAL AND SOCIAL SCIENCES

*Adventure in the Logic of Belief* (Appleton-Century). G. F. Thomas discusses *Spirit and its Freedom* (University of North Carolina). Philosophers may also be interested in the late A. A. Bowman's *Studies in the Philosophy of Religion* (Macmillan).

### MISCELLANEOUS

There are a few contributions which are not easily classified. One is a translation by M. and R. Weatherall entitled *Masaryk on Thought and Life: Conversations with Karel Capek* (Macmillan) which might interest philosophers. S. Ratner stresses the importance of what he considers to be a basic concept: "Patterns of Culture in History" (*Phil. of Sci.*, VI, 1). W. H. Kane's "Introduction to Philosophy" (*Thom.*, I, 2) is an attempt to show what philosophy is by argument fashioned after that of the *Summa* of St. Thomas. In "Scholasticism in Modern Thought" (*J. Phil.*, XXXVI, 5) H. A. Myers sets forth certain "fallacies" characteristic of "bad scholasticism" which he finds to be corruptive of modern thought.

M. C. Nahm develops "The Philosophical Implications of Some Theories of Emotion" (*Phil. of Sci.*, VI, 4).

### NEW JOURNALS

There is a noticeable increase in the number of journals devoted to topics of philosophic interest. The appearance of *The Thomist* has already been noted. A periodical which should be very helpful in providing a key to much of current philosophical literature as well as bibliographical aid promises its first issue for late in 1939. This is *Philosophical Abstracts*, announced as "a quarterly review of philosophical books and periodicals in the form of brief excerpts and synopses."

Still another journal is expected to present its first number in January, 1940. Entitled *Journal of the History of Ideas: A Quarterly Devoted to Intellectual History*, it will serve philosophy along with allied fields. The editor is A. O. Lovejoy, Johns Hopkins University; the managing editor, P. P. Wiener, College of the City of New York.

## ANTHROPOLOGY AND ETHNOLOGY

BY ELIOT D. CHAPPLE

DEPARTMENT OF ANTHROPOLOGY, HARVARD UNIVERSITY

### GENERAL

Anthropology during 1939 was seriously hindered in its development by the war in Europe. Many European journals had to suspend publication, and the activities of workers in this field were necessarily curtailed. Nevertheless, much important work was done, particularly in this country.

### SOCIAL ANTHROPOLOGY

Perhaps the most significant development in social anthropology in 1939 was the increased use of anthropological methods in the study of human relations in the United States, both in industry and in governmental work. F. J. Roethlisberger of the Harvard School of Business Administration and W. L. Dickson of the

Western Electric Company described the results of a long series of studies at the Hawthorne works of the Western Electric Company in *Management and the Worker* (Harvard). This research began as an attempt to study fatigue among the workers and ended up as a frankly anthropological study of the relations of individuals in the plant. Much work is also being done by the Department of Agriculture, particularly in the Soil Conservation Service, in which the use of anthropological methods again emphasizes the changing position of this subject. Whereas formerly, social anthropology was almost entirely confined to the primitive field, it is now being realized that its methods, when applied, can yield significant results.

in the study of our own civilization. An interesting example of its use to the administrator is the work of F. L. W. Richardson, Jr., of Harvard University at the Penncraft resettlement project of the American Friends Service Committee in western Pennsylvania. This study is designed to provide a continuous audit of the human situation in the community in order to evaluate the effect of administrative procedures on the individuals concerned.

A new approach in social anthropology has been developed by E. D. Chapple of Harvard University and C. M. Arensberg of the Massachusetts Institute of Technology. They have worked out operational methods of studying human relations, involving the measurement of the interaction of individuals by the use of a time-recording apparatus. In so doing, they have found that functional relations, in the mathematical sense, may be demonstrated from the data.

## ETHNOLOGY

Elsie Clews Parsons published her *Pueblo Indian Religion* (Chicago), representing a summary of more than 25 years' work in the Pueblo area. In this book she has assembled and compared all the available data and has endeavoured to work out the mechanisms of culture change as they affect the ceremonial activities of these peoples. This study is of fundamental importance for students of Southwestern ethnology. Another work which brings together a wide diversity of materials is *Cultural Relations of the Plateau Region of the Northwestern United States* by V. F. Ray of the University of Washington. Until this work appeared, our knowledge of the field was entirely piecemeal. Ray has given us a systematic picture of the interrelations of the Plateau cultures which is basic to any future work. A similar work which ought to be mentioned, though it appeared at the end of 1938, is *The Eyak of the Copper River Delta of Alaska* (Copenhagen) by K. Birket-Smith of Copenhagen and F. de Laguna of Bryn Mawr. This culture presents an interesting problem since

Eskimo, Tsimshian, Tlingit and Athabaskan elements have been isolated. The authors show that, though the culture is a mixture of these four, the language is both Tlingit and Athabaskan, and apparently represents the original form from which these two languages stemmed. The cultural relations are dealt with in a long comparative section, following the study of the people themselves. One other work of significance in giving us a picture of an area is "Breed and Border in Polynesia" (*American Anthropologist*, 41:1-21) by E. G. Burrows, continuing the studies in the relationships between the islands.

## RELATIONS TO OTHER SUBJECTS

During 1939 a number of publications appeared in which attempts were made to define the current position of social and psychological subjects, including anthropology. R. Lynd of Columbia University in *Knowledge for What?* (Princeton) attacked social scientists for failing to develop methods which yielded results useful to administrators and the man in the street. He pleaded for a unification of the sciences dealing with man, based on the description of man's behaviour. A group of British psychologists, sociologists, and anthropologists brought out *The Study of Society*, which embodied the results of a colloquium designed to make available the methods and problems of the separate disciplines. A useful summary of the present state of social anthropology by A. I. Richards is included. In this country, a similar attempt at synthesis took place in the publication of an evaluation of the *Polish Peasant* of Thomas and Znaniecki by H. Blumer of the University of Chicago and the discussion of the evaluation by a group of social scientists under the auspices of the Social Science Research Council. The same problem of synthesis was discussed in the May issue of the *American Journal of Sociology*.

In a slightly different field, the publication of A. Kardiner's *The Individual and His Society* represents an attempt to explore the relationships between social anthropology and

psychoanalysis. The book was done in collaboration with R. Linton of Columbia University, who contributed a foreword and two ethnological reports, and Kardiner, the psychoanalyst, tries to place the study of the individual in the context provided by the anthropologist.

#### ARCHAEOLOGY—UNITED STATES

Considerable progress was made in archaeology in this hemisphere during 1939. In general, it may be said that sound excavation techniques are becoming the rule rather than the exception and that, as a result, the stratigraphy of a number of areas is being established.

Perhaps the most significant activity in this area during 1939 has been the expenditure of government funds for archaeology under the TVA and the WPA. The results of this concentrated attention on the problems of the Southeast may be summarized by saying that we are at last obtaining a chronology based upon the stratigraphic evidence of the sequence of cultures. In the TVA area where, due to the construction of power dams, it has been imperative to recover the archaeology before the land was flooded, the most important work has been done in the excavation of a number of large shell mounds in the Pickwick basin in northwestern Alabama. Under the direction of Major W. S. Webb, another base-line for ceramic sequences in this area was established. There is stratigraphic evidence of a succession from a pre-pottery culture through a number of phases to historic times. At Macon, Ga., A. R. Kelly continued his work at the large mound site in which the chronology of this region is being worked out.

In Louisiana, J. A. Ford, working with a WPA project in and around Marksville, established a chronological sequence parallel to the Pickwick basin sequence of Alabama. More interesting, however, is the fact that he is solving the problem of the Hopewell culture. In Ohio, the remains of this culture were entirely ceremonial. In Marksville, village sites were discovered which are un-

questionably Hopewell. Its position in the chronology has been determined to be next to the earliest period, and is followed by three or four phases in which a cultural degeneration is evident. This degeneration occurred long before historic times.

In the Plains, a great deal of work may be summarized briefly by saying that sedentary agricultural peoples have been found in Iowa, Kansas, Nebraska, and other central states preceding the buffalo hunting groups, thus indicating that the notion of the empty Plains into which buffalo hunters migrated has to be abandoned. In Illinois, the excavations of the University of Chicago were continued, and are extending our time-perspective into lower levels of culture which are associated with more primitive, proto-Australoid, physical types.

In New Jersey, the famous Trenton finds are being restudied by D. Cross of the New Jersey State Museum and the whole complex is being fitted into the Woodland archaeological sequence. What had been believed to be a post-Pleistocene culture has been found in association with pottery, and its supposed great age has been shown to be incorrect.

Current archaeological research in the southwestern United States covers an ever-increasing span of time. During 1939 investigators worked on many diversified problems, from possible "glacial man" to sixteenth and seventeenth century Spanish remains, and even to the prehistory of the Navajo.

Studies of the remains of very early inhabitants are being made throughout the area from eastern California to western Texas, and from northern Colorado to the Mexican border. F. H. H. Roberts, Jr. of the Smithsonian Institution continued his work at the (Lindenmeier) site north of Fort Collins, Col., where Folsom points and other artifacts are found in association with the bones of extinct mammals. In southern Arizona, E. B. Sayles of the Gila Pueblo Museum has discovered a series of cultures, the earliest of which flourished in a pluvial period in a region now very dry.



As in recent years, however, the greatest emphasis was placed on the first millennium A.D. and the development of agricultural civilizations. Two major cultural groups are now recognized, the Basketmaker-Pueblo of the Northern Plateau and the Hohokam of the Southern Lowlands, particularly in the Gila Basin. E. Morris of the Carnegie Institution and J. O. Brew of Harvard University excavated early sites of the former near Durango, Col., and in northeastern Arizona respectively. O. S. Halseth of the Pueblo Grande Museum continued work in the Hohokam area and E. W. Haury of the University of Arizona and W. S. Fulton of Dagoon excavated related cultures south and southeast of Tucson. A third culture, the Mogollon, of major importance during this period, is now accepted by many students. Three expeditions attacked this problem. E. W. Haury, who first called attention to it, excavated at Foresdale, south of Holbrook, Ariz., and P. S. Martin of the Field Museum and P. H. Nesbitt of the Logan Museum dug sites near Reserve in western New Mexico.

Near Flagstaff, the Museum of Northern Arizona has discovered a very rich culture which seems to be a mixture of the three. H. S. Colton of that institution has also been working west of Flagstaff in a culture called Patayan which seems to be a blend of the typically southwestern groups with the prehistoric inhabitants of the Colorado River regions now occupied by the Yuman tribes. F. C. Hibben of the University of New Mexico worked extensively in the Gallinas valley north of Cuba, New Mexico, where he found a strikingly distinct culture presenting a mixture of Pueblo and non-Pueblo (Woodland) elements.

The Awatovi expedition of the Peabody Museum of Harvard University completed its excavations in the Hopi Reservation in northeastern Arizona where they were able to trace the development of culture from 500 A.D. to the present, including fifteenth and sixteenth century Hopi wall paintings and the excavation of the Franciscan establishment at Awatovi.

The most recent phase of Southwestern archaeology is the study of the Navajo, the date of whose entry into the Southwest is unknown. The University of New Mexico and H. P. Mera of the Laboratory of Anthropology are working on this problem in northern New Mexico.

#### MEXICO, CENTRAL, AND SOUTH AMERICA

Attention of Americanists in this area was primarily turned to the meetings of the International Congress of Americanists at Mexico City and later at Lima, Peru. Just before the Mexico City meeting, M. J. Stirling of the Smithsonian Institution announced the discovery at Tres Zapotes in Vera Cruz of a Mayan stela which apparently records the oldest date yet discovered in the New World (by the Spinden correlation, 291 B.C.). More important from the point of view of Mayan chronology is the fact that it may represent a seven-cycle date. Some objection is being made to the interpretation that the date was actually recorded at that time, since there is evidence on stylistic grounds that it may represent work of a later period. The year also saw the publication by J. E. Thompson of the Carnegie Institution of Washington of his report on "Excavations at San José, British Honduras," which extends our knowledge of the periphery of Mayan influence, and in particular, through the evidence afforded by large quantities of trade pottery, provides us with considerable information about the workings of the Mayan economy.

In South America, A. V. Kidder II of the Peabody Museum of Harvard University excavated during the year at Pucara in Peru. Kidder discovered here a new phase of Highland culture, related to Tihuanaco, which has its affinities both in Bolivia and elsewhere in Peru. Apparently this site was an important center. W. C. Bennett of the University of Wisconsin published his *Archeology of the North Coast of Peru*. He isolates in this work the important middle Chimu cultures not previously determined, and describes a series of pottery



styles which may follow each other chronologically.

#### ARCHAEOLOGY—EUROPE

In general, the work in archaeology in the Old World which is of particular interest to anthropologists suffered from the troubled conditions preceding the actual outbreak of war. There were, however, a number of outstanding developments.

Perhaps the most important event in the prehistory of Europe in 1939 was the publication of the second edition of V. Gordon Child's *Dawn of European Civilization*. This represents a complete reworking of the available evidence and is the basic work for all students of European prehistory. Two more publications of the Harvard Archaeological Expedition to Ireland appeared this year. H. L. Movius published his report on Cushendun in County Antrim (*PRIA*, vol. XLV, sec. C) which establishes the post-glacial sequence in northern Ireland and describes a new Mesolithic culture to which the name Larnian has been applied. H. O'N. Hencken published his report on "A Long Cairn at Creevykeel" (*JRAL*, vol. LXIX, pt. 2) which extends our knowledge of the Irish Megalithic and the beginning of the Bronze Age.

In the Paleolithic field, the Abbé Breuil published in English (*PPS*, new series, vol. V, pt. 1) a "Review of the Somme Valley Situation." Mrs. A. B. Kelley, working with the Abbé Breuil at Abbeville, found handaxes in situ in the bottom stratum of the oldest terrace on the Somme. Harper Kelley completed this year his installation of the prehistoric halls at the Trocadero and opened a large laboratory with extensive study collections of the Paleolithic cultures of the world.

C. S. Coon of Harvard University excavated the High Cave in Tangiers, finding a sequence of cultures from Levalloisian to Roman and modern times. Of particular importance was the discovery of a fossil maxilla, almost certainly Neanderthal, in the lower layers. This is the first time Neanderthal man has been found in Africa. A further extension of our

knowledge of the spread of Neanderthal man occurred when the skeleton of an eight-year-old boy was found at Tashkent in Russian Turkestan, which A. Hrdlicka of the Smithsonian Institution pronounced Neanderthal.

#### NEAR EAST

The situation in the Near East progressed considerably during the last year, even though the excavations of Blegen of the University of Cincinnati at Troy had to be discontinued. At Tarsus, H. Goldman of Bryn Mawr established a sequence of cultures from Classical times back to the prehistoric in what was previously unexplored territory. At Mersin, Garstang of Liverpool found Halaf pottery and earlier cultures below this level. The wider spread of the Halaf culture was evidenced from the excavations at Lake Van by Kirsopp Lake which suggest a possible mountain origin for this culture. The excavations at Lake Van are of course primarily intended to establish the history of the Vannic Kingdom. In Syria, further extensions of the Halaf cultures were ascertained at Ras Shamra as well as pre-Halaf cultures. In this field of the study of early man in the Near East, the most important event was the publication by Garstang and V. Seton-Williams of their final report on Sakje Geuze (Liverpool). This was the first Tel Halaf site excavated, and revealed also the pre-Halaf culture to which the name Sakje Geuze was given.

L. Ward and D. W. Lockard of the Peabody Museum of Harvard University made an extensive reconnaissance trip in Syria and Iraq, following the fertile crescent, in order to prepare for future excavations which may throw light on the origin of the Neolithic. In general, the route they followed took them to those areas where the appearance of domestic grains, on botanical grounds, seemed most probable.

An important upper Paleolithic site, Ksar A'Kil near Antelius, excavated by Fr. Doherty and Fr. Ewing of Boston College, showed a thick deposit of Aurignacian industries which should give us better stratigraphic

## ANTHROPOLOGY AND ETHNOLOGY

and typological evidence to correlate with the excavations of D. Garrod at Mt. Carmel, and give us a clearer picture of the upper Paleolithic in this region.

### MIDDLE AND FAR EAST

The principal activity in the East, aside from the discovery of another *Pithecanthropus* by G. H. R. von Koenigswald at Sangiran in Java, near Solo, the site of the second *Pithecanthropus*, was the publication by H. DeTerra of the Carnegie Institution and T. T. Paterson of Cambridge University, England, of *Studies on the Ice Age in India and Associated Human Cultures*. In this work, the Pleistocene sequence in the Siwalik Hills is established, and the discovery of a chopping tool complex, a lower Paleolithic industry without handaxes, suggest affinities with similar finds in China, Burma, and Malaya (recently by H. D. Collings of the Raffles Museum in Singapore). The work is primarily geological, but in each area dealt with, the sequence of stone cultures is described. Also in India, E. C. Worman, Jr., of the Peabody Museum of Harvard University made a survey of the early cultural material of Paleolithic and Neolithic age in the museums as well as that he personally secured in reconnaissance work. His report on this subject, now in preparation, promises to be the first systematic inventory of the whole archaeological situation in India.

### PHYSICAL ANTHROPOLOGY

Important events in physical anthropology this year were primarily confined to a series of publications representing the culmination of many years of investigation. C. S. Coon of Harvard University published his monumental *The Races of Europe* which is designed to take the place of W. Z. Ripley's classic work. The book presents a survey of the history of the racial groups in Europe from Paleolithic times to the present and includes a systematic study of the living peoples. Coon believes that the white races may be divided into two main groups—the Mediterranean

groups who appear in Europe after the last Glacial period and the Paleolithic survivals who form a minority of the population and are segregated in the most undesirable areas (Scandinavia, Iberian Peninsula, British Isles, etc.). These groups mixed in Neolithic times, but during modern times, from ca. 500 A.D. to the present, Coon believes that there has been a tendency for these constituent types to reemerge due to the action of segregation. Perhaps the most interesting part of the book is the synthesis of the archaeological evidence. Here in one book is a convincing picture of the history and movements of peoples in the European area never before accomplished in anything like the thoroughness that Coon brings to this subject.

An interesting commentary on the racial point of view represented by Coon is to be found in *Migration and Environment* by H. L. Shapiro of the American Museum of Natural History. This book is a study of the effect of changes in environment upon a single group, the Japanese in Hawaii. Three groups were distinguished—the Japanese who actually migrated from Japan, their sons and daughters born in Hawaii, and the non-migrant Japanese, largely the relatives of the migrants. Significant differences occurred between the three groups. The fact that there were significant differences between the migrants and their relatives who remained in Japan suggests the possibility of some kind of unconscious selection from the general population, perhaps due to behavioural aspects of inheritance. Once this selected group is subjected to a new environment, further change is formed in the physical characters of the individuals, thus suggesting that environmental changes must be taken into consideration in the study of race, and that there is additional evidence to substantiate the pioneer work of F. Boas of Columbia University on the differences of the children of immigrants in respect to their parents.

A third important publication is made up of two books by E. A. Hooton of Harvard University, *The*

## XXIV. PHILOSOPHICAL AND SOCIAL SCIENCES

*American Criminal* (Harvard) and a more popular volume, *Crime and the Man* (Harvard). These volumes deal with the measurement of criminals actually under sentence in penal institutions. The principal contribution of the study is the systematic analysis of the relation of type of crime with body build and race, in which Hooton's evidence shows that there is a definite correlation between these phenomena. From the comparison of his criminal series with a series taken from the general population, Hooton concludes that the basis of criminal behaviour is the biological inferiority of the criminal. General organic deterioration is likely to result in diverse anti-social attitudes and in a multiplicity of criminal offense.

The works of Coon, Shapiro, and Hooton form a significant triad in the development of physical anthropology, particularly in the field of living peoples. The recent publication of *The Stone Age of Mt. Carmel*

(Oxford) by T. D. McCown of the University of California and Sir Arthur Keith is almost certain to become a model for future reports on fossil man. The wealth of illustration, the thoroughness with which each home is measured and described is remarkable even in publications of this sort. The authors conclude that these skeletons have a definite resemblance to the Krapina form of Neanderthal on the one hand and to the Predmost and Cro-Magnon types on the other. They do not regard the Carmel skeletons as a blend of these forms, however, but rather that they represent a mutant, developed out of an antecedent Heidelberg man.

### NECROLOGY

A severe loss to physical anthropology was the death of T. Wingate Todd of Western Reserve University, Dec. 28, 1938. His study of growth and age changes, culminating in his *Atlas of Skeletal Anatomy* is of fundamental importance in this field.

## PERIODICAL PUBLICATIONS

### *American Anthropologist*

American Anthropological Association, Menasha, Wis.

### *American Journal of Physical Anthropology*

36th Street and Woodland Ave., Philadelphia.

### *American Journal of Psychiatry*

2 East 103d Street, New York City.

### *American Journal of Psychology*

Cornell University, Ithaca, N.Y.

### *American Journal of Sociology*

5750 Ellis Ave., Chicago.

### *American Political Science Review*

305 Harris Hall, Northwestern University, Evanston, Ill.

### *International Journal of Ethics*

5750 Ellis Ave., Chicago.

### *Journal of Abnormal and Social Psychology*

American Psychological Association, Princeton, N.J.

### *Journal of Comparative Psychology*

Mount Royal and Guilford Aves., Baltimore, Md.

### *Journal of Educational Psychology*

Mount Royal and Guilford Aves., Baltimore, Md.

### *Journal of Educational Sociology*

32 Washington Place, New York City.

### *Journal of Experimental Psychology*

American Psychological Association, Princeton, N.J.

### *Journal of General Psychology*

Clark University Press, Worcester, Mass.

### *Journal of Philosophy*

515 West 116th Street, New York City.

### *Journal of Social Philosophy*

P.O. Box 50, Hamilton Grange Station, New York City.

### *Journal of Social Psychology*

Clark University Press, Worcester, Mass.

### *Mental Hygiene*

50 West 50th Street, New York City.

### *Philosophical Review*

114 Fifth Ave., New York City.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

### *Psychoanalytic Review*

3617 Tenth Street N.W., Washing-  
ton, D.C.

### *Psychological Review*

American Psychological Association,  
Princeton, N.J.

### *Social Research*

66 West 12th Street, New York City.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN ACADEMY OF POLITICAL AND  
SOCIAL SCIENCE, 3457 Walnut St.,  
Philadelphia, Pa.

AMERICAN ANTHROPOLOGICAL ASSOCIA-  
TION, American Museum of Natural  
History, New York City.

AMERICAN ASSOCIATION OF PHYSICAL  
ANTHROPOLOGISTS, American Mu-  
seum of Natural History, New  
York City.

AMERICAN ETHNOLOGICAL SOCIETY,  
American Museum of Natural His-  
tory, New York City.

AMERICAN GENETIC ASSN., 308 Victor  
Bldg., Washington, D.C.

AMERICAN PHILOSOPHICAL SOCIETY, 104  
S. 5th St., Philadelphia, Pa.

AMERICAN POLITICAL SCIENCE ASSN.,  
305 Harris Hall, Northwestern Uni-  
versity, Evanston, Ill.

AMERICAN PSYCHIATRIC ASSN., 2 E.  
103rd St., New York City.

AMERICAN PSYCHOLOGICAL ASSN., Univ.  
of Minnesota, Minneapolis, Minn.

AMERICAN PSYTOPATHOLOGICAL ASSN.,  
520 Commonwealth Ave., Boston,  
Mass.

AMERICAN SOCIETY FOR PSYCHICAL RE-  
SEARCH, 40 E. 34th St., New York  
City.

AMERICAN SOCIOLOGICAL SOCIETY, Uni-  
versity of Pittsburgh, Pittsburgh,  
Pa.

NATIONAL COMMITTEE FOR MENTAL  
HYGIENE, 50 W. 50th St., New York  
City.

NATIONAL INSTITUTE OF SOCIAL SCI-  
ENCES, 271 Madison Ave., New  
York City.

PSYCHOLOGICAL CORPORATION, 522 Fifth  
Ave., New York City.

SOCIETY FOR AMERICAN ARCHAEOLOGY,  
10 Frisbie St., Cambridge, Mass.



PART SEVEN  
THE HUMANITIES  
DIVISION XXV  
LITERATURE AND LANGUAGE

FICTION

BY PETER MONRO JACK

CRITIC AND LECTURER

---

**STEINBECK AND SOCIOLOGY**

John Steinbeck's *The Grapes of Wrath* (Viking) was undoubtedly the book of the year, most frequently discussed, generally at the head of the best sellers. It deals with the plight of the Oklahoma small farmers who have lost their farms and migrate to California with the lure of fruit-picking money. They are disillusioned, badly treated, and worse off than if they had stayed on their ruined farms. The book is an indictment of California business and advertising, as well as a warm intimate human story. About to appear as a movie, it is certain to remain a controversial subject for years to come, like the propaganda of Harriet Beecher Stowe and Upton Sinclair. A somewhat similar situation is in *Waste Heritage* (Random) by Irene Baird, dealing with the sit-down strike of migratory workers in Vancouver three years ago.

Other socially conscious novels are John Dos Passos's *Adventures of a Young Man* (Harcourt, Brace) in the twenties and thirties, including the Communist Party and Spain, the first of a series of contemporary portraits; Elliott Paul's *The Stars and Stripes For Ever* (Random), writing of America's industrial strife as if it

were a civil war; Josephine Herbst's *Ropes of Gold* (Harcourt, Brace), dealing with the years 1933-37, with proletarian characters, unemployment, relief, and strikes; Josephine Lawrence's slight novel *A Good Home With Nice People* (Little, Brown) on the mistress-maid problem; Irving Fineman's *Doctor Addams* (Random House), the love story of a biophysicist but involving the chaos of modern society. *Return To Dust* by Alice Lent Covert (Kinsey) is of life in the dust-bowl. *Stephen Ayers* by James McConnaughey (Farrar & Rinehart) is of Ohio in the mid-twenties and the depression in the foundry works there.

William Faulkner's *The Wild Palms* (Random House) is one of his clearest and most striking novels, composed of two alternating stories, the more impressive being the account of a convict who was lost during the Mississippi flood; no preaching but indirectly significant of the social system.

**AMERICAN HISTORY**

The biggest book in this field was Vardis Fisher's *Children of God* (Harper), an American epic of the Mormons during the quarter-century before the Civil War, with the char-

acters Joseph Smith and Brigham Young, exhaustive, sincere, and sympathetic. *Artillery of Time* by Chard Powers Smith (Scribner's) was a successful novel on the grand scale of a great dynastic family of upper New York State, mid-19th century, changing from agriculture to commercialism through manufacture of armaments, introducing Lincoln, Gettysburg, etc. *The Land is Bright* by Archie Binns (Scribner's) is the story of the Oregon Trail in 1854. Anne Colver's *Listen For the Voices* (Farrar & Rinehart) is a novel of Concord, 1850, with the Alcotts, Emersons, Hawthornes, seen by a middle-class family. Frontier life in New Hampshire is narrated in *Next to Valour* by John Jennings (Macmillan), a romantic tale of the French and Indian wars.

*Nebraska Coast* by Clyde Brion Davis (Farrar & Rinehart) is an authentic story of pioneering in the sixties. *Gamble's Hundred* by Clifford Dowdey (Little, Brown) concerns the old Virginian aristocracy. *Jubal Troop* by Paul I. Wellman (Carrick & Evans) is a western-action story of the great blizzard of 1888. Rupert Hughes goes back to the 17th century to write a well-authenticated story of the Massachusetts Bay Colony in *Stately Timber* (Scribner's). *A Sea Island Lady* by Francis Griswold (Morrow) is a fresh aspect of the post-war South. *Song of Years* by Bess Streeter Aldrich (Appleton) is pioneering Iowa from 1854 till after the Civil War. Phil Stong in *Ivanhoe Keeler* (Farrar & Rinehart) writes a picaresque story of 100 years ago. *The Man Who Killed Lincoln* by Philip Van Doren Stern (Random House), lately turned into a play, is fiction based on intensive research. Robert Penn Warren's first novel, *Night Rider* (Houghton, Mifflin), has for a background the Kentucky tobacco war of 1906, with a character of goodwill who is forced to join in the fighting. James Boyd's *Bitter Creek* (Scribner's) is an easy character story of Wyoming in the seventies with a carefully drawn background.

The American Revolution is retold in part by Howard Fast in *Conceived*

in *Liberty* (Simon & Schuster), especially of Valley Forge; by Elizabeth Page in *The Tree of Liberty* (Farrar & Rinehart), on the political contest between Jefferson and Hamilton, the growth of liberty, democracy, Americanism; by Bruce Lancaster in *Guns of Burgoyne* (Stokes), a fresh treatment of the events; and by Frank O. Hough in *If Not Victory* (Carrick & Evans), of Westchester noncombatants.

#### AMERICAN REGIONALISM

There has been no great success in this field. Edmund Gilligan's *White Sails Crowding* (Scribner's) is a pleasant narrative of the fishing port of Gloucester. Dorothy Canfield's *Seasoned Timber* (Harcourt, Brace) contains the American spirit of a Vermont small town. French Canada is pictured in *The Habitant-Merchant* by J. E. LeRossignol (Macmillan). The Labrador trapper is portrayed in Elliott Merrick's *Frost and Fire* (Scribner's). A first novel of the contribution of the French Canadians to New England industry is *The Debusson Family* (Funk & Wagnalls) by Jacques Ducharme.

South Dakota is pictured in Horace Kramer's *Marginal Land* (Lippincott), the story of a city fellow who actually makes money out of the land. Grace Lumpkins's *The Wedding* (Lee, Furman) is characteristically set in Lexington, Georgia, in 1909. *Purslane* by Bernice Kelly Harris (Carolina U. P.) is a home-spun novel of North Carolina truck and cotton farmers. *Free and Clear* by Marguerite McIntyre (Farrar & Rinehart) is the chronicle of the daily life of a New England farm. *Restless is the River* by August Derleth (Scribner's) is of Wisconsin in its pioneering days. *Three Miles Square* by Paul Corey (Bobbs-Merrill) is one of the best of farm novels, about Iowa. Edwin Lanham's *The Stricklands* (Little, Brown) is about the poor whites of Oklahoma. Helen Finnegan's *The King Pin* (Macmillan) is a story of smalltown family life in upper Michigan; it won the highest award in the Avery Hopwood contest at the University of Michigan. Phil Stong

writes an idyll of Iowa in 1912 in *The Long Lane* (Farrar & Rinehart). *Capital City* by Mari Sandoz (Little, Brown) is a long satire of a Nebraska town.

*Sons of the Puritans* is Don Marquis's last book, unfinished, of a Middle West village (Doubleday, Doran). Hamilton Basso writes of the South (New Orleans) in an unusually healthy, realistic, and intelligent way (*Days Before Lent*, Scribner's). Flannery Lewis's third novel is *Abel Dayton* (Macmillan), the story of a youth growing up in California. The first novel to be written about America by Frederic Prokosch is *Night of the Poor* (Harper), an exceptionally fine tale of the wanderings of a boy from Wisconsin to Texas. DuBose Heyward's *Star-Spangled Virgin* (Farrar & Rinehart) may be mentioned here, a tale of the negroes of St. Croix of the Virgin Islands under American rule and somewhat of a satire on the Relief Administration. *Wickford Point*, the second successful novel by John P. Marquand (Little, Brown) is regional in the sense that it could only have happened in the environs of Boston, a satire of a declining New England patrician family called the Brills, likened to Thackeray and to Chekhov, and arousing lively controversy as to the identity of the family.

#### NEW YORK REALISM

The annual realistic stories of New York include Benjamin Appel's *The Power House* (Dutton), a tough tale of Hell's Kitchen and the clique that runs the politics, crime, strike-breaking outfits; Jerome Weidman's *The Horse That Could Whistle "Dixie"* (Simon & Schuster), 28 stories of Brooklyn and lower East-side tenements, subways, and dress shops; Edmund Schiddel's first novel, *Scratch the Surface* (Harcourt, Brace), a photographic study of Manhattan with hard-boiled dialogue. Toughness, *per se*, is losing its appeal; the latest, after James Cain, is *The Prisoner Ate a Hearty Breakfast* by James Ellison (Random House), and it seems like a routine. Samson Raphaelson's *Sky-lark* (Knopf) would not have at-

tracted attention had it not been turned into a successful play, about the New York advertising business. *Fiesta in Manhattan* by Charles Kaufman (Morrow) is a first good novel of the Spanish-Mexican quarter in New York.

#### HISTORICAL FICTION

In the general field of historical adventure and characterization there is first Heinrich Mann's conclusion of the narrative begun as *Young Henry of Navarre* in *Henry, King of France* (Knopf, trans. from the German by Eric Sutton). Stuart Cloete continues his South African history of the early 19th century Boers in his second novel, *Watch For the Dawn* (Houghton Mifflin). Dorothy Hewlitt's *Victorian House* (Bobbs-Merrill) is a "biography" of the mid-Victorian era. In *Drums at Dusk* Arna Bon-temps tells the story of the Haitian kingdom of Henri Christophe and the slave revolt (Macmillan). *Fray Mario* by Helen Douglas Irvine (Longmans, Green) is about the Spanish Empire and the conquest of Peru. *Flying Colours* is C. S. Forester's third novel of the legendary Captain Hornblower's sea tales (Little, Brown). *Chris Lowrie* by Nora Loftis (Knopf) is a chronicle of 18th century adventure. *The City of Gold* by Francis Brett Young (Reynal & Hitchcock) is the South Africa of Jameson, Kimberley, and Rhodes. Margaret Irwin's *The Bride* (Harcourt, Brace) is 17th century Scots history, the legend of Montrose. *Royal Escape* by Georgette Heyer (Doubleday, Doran) is a good historical novel of Charles II when Cromwell had put a price on his head. Helen C. White's *To the End of the World* (Macmillan) is the story of a young priest during the French Revolution.

#### FIRST NOVELS

The most interesting first novel of the year was *Christ in Concrete* by Pietro di Donati (Bobbs-Merrill), an original and partly autobiographical story of an Italian bricklayer who lost his job; distinguished by its quality of writing. Wells Lewis, son

of Sinclair Lewis, has written an amusing book on the life of a young man in Harvard, New York, and Mexico in *They Still Say No* (Farrar & Rinehart). Marthedith Furnas's *The Night Is Coming* (Harper) is a portrait of a predatory woman of the mid-western eighties and nineties, robust and humorous. *Wind Without Rain* by Herbert Krause (Bobbs-Merrill) was liked for its poetic quality, of Minnesota. David Rame's story of South Africa of our own time, Stuart Cloete and Brett Young brought up to the present, had a good press and a good audience—*Wine of Good Hope* (Macmillan). *Hawk Among the Sparrows* (Knopf) is a promising psychological study by Desmond Hawkins. *The Wings of the Morning* by Edward Hyams (Little, Brown), a discussion-novel by English Marxists, and *The Seventh Plank*, from the Boer war to the World War (Putnam) by William McDowell, are apprentice work. The first novel by Kenneth Fearing, the proletarian poet, is *The Hospital* (Random House), dramatic story of two women, with a poet's style.

#### TRANSLATIONS

The novel that replaced *The Grapes of Wrath* for a time in the best-selling lists is technically a translation—*The Nazarene* by Sholem Asch, translated by Maurice Samuel (Putnam), a three-way story of the life of Christ, through the eyes of a Roman captain reincarnated as a Pole, a sceptical Jew, and a fifth gospel, the gospel of Judas which is supposed to have been recovered. Stefan Zweig's *Beware of Pity* is his first novel, translated from the German by Phyllis and Trevor Blewitt (Viking), an original and sometimes brilliant portrait of a crippled girl in love with an Austrian officer. Thomas Mann's *Royal Highness* (Knopf) is a novel begun in 1905, published in 1916, and now republished, showing how Mann's doctrine of freedom and democracy had been fully realized before the war. *Sun and Storm* by Unto Sepänen (trans. Kenneth C. Kaufman; Bobbs-Merrill) is a politico-historical

novel of the Finnish nationalist movement begun in 1831.

*The Thibaults*, by Roger Martin du Gard (Viking), translated by Stuart Gilbert, is an omnibus volume of a long novel published in France in six volumes and still unfinished, a human document in the naturalistic tradition of a militant Catholic and his two sons, by a little known Nobel Prize winner. *Verdun* is vol. 8 of the great novel by Jules Romain, *Men of Good Will* (Knopf), a novel planned since 1908, written since 1924, and published here since 1932, the history of his own generation, the present section being the events of the major German effort during the war and the major French victory. *The Woman Who Was Poor* by Leon Bloy (trans. I. J. Collins, Sheed & Ward) is a spiritual essay of the French eighties by an author who died 20 years ago.

*Harvest*, the novel which won the Critics' prize as the best foreign movie, is a story of peasant primitive life in Jean Giono's native French Basses-Alpes, translated by Henri Fluchere and Geoffrey Myers (Viking). *Jean Clarambault*, by Jean Toussoul (trans. Elizabeth Abbott, Lippincott), is a long chronicle of the war in a Belgian village.

About Russia is the long controversial novel by Nicholas Kalashnikov called *They That Take the Sword* (Harper), of a Russian youth exiled to Siberia in the early days of the Revolution, an anti-Soviet document, from 1900 to 1920, including portraits and ideologies of Social Revolutionists, Bolsheviks, Mensheviks, Liberals, Constitutional Monarchists, Extreme Monarchists, etc. About Russia also is the historical novel of *The Torguts* (Stokes) by W. L. Rivers, their migration from the Volga Valley through Central Asia in the 18th century.

#### SPAIN AND THE CIVIL WAR

A paragraph must be reserved for the novels from and about the Spanish war. Even Frances Parkington Keyes's very popular magazine story, *The Great Tradition* (Messner) brings its German-American hero to Spain.



*No Victory for the Soldier* by James Hill (Doubleday, Doran) is the story of a pianist-composer who joins the Spanish loyalist army and is killed. *Amateurs in Arms* by F. J. Joseph (Carrick & Evans) concerns the arms traffic and the Spanish war. *Sirocco and Other Stories* by Ralph Bates (Random House) contains 13 stories of the war in Spain. *Only the Young* by Elliott Arnold (Holt) is the story of three sons, a Communist, a broker, and a newspaper man who covers the war in Spain. *Children of Guernica* by Hermann Kesten, translated by Geoffrey Dunlop (Alliance) records the plight of the refugee children pouring into France from Spain. *This Time a Better Earth* by Ted Allan (Morrow) is the story of a Toronto lad in the Abraham Lincoln Battalion in Spain.

#### FOREIGN AND TOPICAL

Fiction has taken over the duty of a reporter. Pearl Buck's *The Patriot* (Day) narrates the present Japanese invasion of China. Vicki Baum's translated novel (Doubleday, Doran) is called *Shanghai, '37*, and tells of nine people killed by Japanese bombs in a Chinese hotel. Louis Golding's *Mr. Emanuel* (Viking), the story of an elderly retired business man from England, takes on political significance after he visits Germany. Negley Farson's *The Story of a Lake* (Harcourt, Brace) continues the story of a transgressor in Europe. Christopher Isherwood's *Goodbye to Berlin* (Random House) is a volume of sketches which were originally intended to be a large-scale novel of pre-Hitler Berlin. Isherwood has abandoned the plan and has published only his notes, stories, and diaries. Cecil Roberts's *They Wanted to Live* (Macmillan) is a dramatization of the European scene. Peter Mendelssohn's *The Dark River* (Doubleday, Doran) is a history of anti-Semitic persecution. *Passport For a Girl* by Mary Borden (Harper) shows how the ordinary novel has to deal with the crisis of Vienna and Munich. *Entanglement* by George Buchanan (Appleton) is an English journalist's story of the years 1937-38.

*Escape* by Ethel Vance (Little, Brown) was the most popular of these novels about Europe, the story of a German actress who returns to Germany and is arrested for anti-Nazi propaganda, and rescued in curious circumstances by her son. *Address Unknown* (Simon and Schuster) had great popularity for a time, a short story by Kressmann Taylor that appeared first in *Story Magazine* and was then reprinted in *Reader's Digest*, on the conflict of Jewish and German friends divided by Hitler.

#### ENGLISH SCENE

*Finnegans Wake* by James Joyce (Viking) was much the most difficult novel of the year, a novel that has taken 16 years of writing, based on the philosophy of the 17th century Italian, Vico, extraordinarily inventive and eccentric in style, and doing for the night-life of a character what *Ulysses* had done for his daytime. A very distinguished novel, in the immaculate tradition of Henry James, was Elizabeth Bowen's *The Death of the Heart* (Knopf), the urbanity of a London house upset by the candor of a young girl's diary. London is the theme of Storm Jameson's *Here Comes a Candle* (Macmillan), the story of a tenement and its tenants, and of Alec Waugh's *Going Their Own Ways* (Farrar & Rinehart), of contemporary manners and morals.

Somerset Maugham's latest novel, *Christmas Holiday* (Doubleday, Doran) is the story of an English boy learning about life in Paris, a sordid and alarming life. Richard Aldington writes of a war-time love child growing up into another war in *Rejected Guest* (Viking). Angela Thirkell's *The Brandons* (Knopf) is a likeable satire of the English social tradition. *Family Album* by Humphrey Pakington (Norton) concerns the last 50 years of England seen through a naval officer's life outside England, in South America, and the Mediterranean, satirical in tone. Margaret Kennedy's *The Midas Touch* (Random House) is a novel of charlatans. Naomi Royde-Smith's *The Altar-Piece* (Macmillan) is a period

piece, the England of 1908, with polished dry humor. Angela du Maurier writes a first novel in *The Perplexed Heart* (Doubleday, Doran), a love story. Warwick Deeping's *Bluewater* (Knopf) is the author's dislike of summer resort colonies. G. B. Stern writes amusingly in the picaresque style in *The Woman in the Hall* (Macmillan). L. A. G. Strong's new story is *The Open Sky* (Macmillan), life through the eyes of a sick man. Storm Jameson's *The Captain's Wife* (Macmillan) is the story of a lonely and disappointed woman. Eric Linklater rewrote the story of Judas (Farrar & Rinehart).

*Immortal Ease* by Kathleen Coyle (Dutton) is the characterization of a woman who might have been the late Elinor Wylie. Sylvia Townsend Warner uses the Don Juan legend as a symbol of Spain's eternal and unhappy life in *After the Death of Don Juan* (Viking). John Masefield continues a character, this time in Africa, in *Live and Kicking Ned* (Macmillan). A first novel is Mary Renault's *Promise of Love* (Morrow) with a realistic background of hospital life. Sir Hugh Walpole's new novel is *The Sea Tower* (Doubleday, Doran), on the relation of a woman and her son's wife. Eric Lowe's realistic and robust story of present-day Australia is *Salute to Freedom* (Reynal & Hitchcock). T. H. White followed up his successful fantasy, *The Sword in the Stone* with *The Witch in the Wood* (Putnam), a similar travesty of medievalism.

#### MISCELLANEOUS POPULAR NOVELS

Christopher Morley's most popular novel is *Kitty Foyle* (Lippincott), the story of a Philadelphia white-collar girl. Augustus Tucker had an unusual success with her *Miss Susie Slagle's* (Harper), the story of a boarding house for medical students from Johns Hopkins. Myron Brinig's *Anne Minton's Life* (Farrar & Rinehart) is the story of a woman's life, who jumps from a top-story window before a crowd. John Herrmann's *The Salesman* (Simon and Schuster) is a realistic tale of an inefficient and

unlucky salesman. Madeleine Boyd wrote of herself and her friends by their real names (AE, H. L. Mencken, etc.) in *Life Makes Advances* (Little, Brown).

Millen Brand, whose first novel *The Outward Room* was turned into a successful play, has written of a state home for disabled soldiers, from Spanish War veterans to participants in the last war, in *The Heroes* (Simon and Schuster). *Valedictory* by MacKinlay Kantor (Coward-McCann) has been compared to *Goodbye, Mr. Chips*, the story of an old janitor leaving his school. Kathleen Norris's latest story is *Runaway Marriage* (Doubleday, Doran). Lloyd Douglas's best seller, *Disputed Passage* (Houghton, Mifflin), concerns the conflict of the mind and heart, and the triumph of love. Barry Benefield wrote a whimsical, romantic story in *April Was When It Began* (Reynal & Hitchcock). *Black Narcissus*, a popular story, is a narrative of nuns who founded a convent in North India, by Rumer Godden (Little, Brown). Zona Gale's last novel was *Magna* (Appleton), about a typical midwestern town.

Waldo Frank's new novel is called *The Bridegroom Cometh* (Doubleday, Doran), a long and complicated story of a New England girl corrupted by New York City, ending on a revolutionary note. In *Power For Sale* John Knittel writes of an electrical engineer who develops power from the Alps for Europe and Africa (Stokes). Ludwig Lewisohn writes a story of love and marriage in *For Ever Wilt Thou Love* (Dial). *Made in U. S. A.* is Hans Otto Storm's sea-story of a ship aground in the Pacific and the characterization of the crew (Longmans, Green). Claude Houghton writes of the sickness of the modern world through the character of a sick man in a nursing home in *Hudson Rejoins the Herd* (Macmillan). In *The Young Cosima* (Norton) Henry Handel Richardson writes the human story behind innumerable letters, journals, and biographies. Lloyd Douglas explains something of his *Magnificent Obsession* in *Doctor Hudson's Secret Journal* (Houghton,

Mifflin), a fragment from the earlier novel. John Fante's second novel is *Ask the Dust* (Stackpole), the story of a young writer in California, in the manner of Saroyan. Raymond Holden's *Believe the Heart* (Holt) is an analysis of feminine psychology. *Ararat* by Elgin Groseclose (Carrick & Evans) is an account of the Turkish massacres of Armenians, from 1895 to the Russian Revolution, by a Texas cowhand turned missionary. The posthumous novel by Thomas Wolfe, *The Web and The Rock* (Harper) is mainly concerned with a long tempestuous love affair.

### SHORT STORIES

Louis Bromfield in *It Takes All Kinds* (Harper) shows his versatility in three novels, two novelettes, and some short stories of magazine calibre. Ben Hecht's *A Book of Miracles* (Viking) has seven stories, or allegories, extraordinarily inventive. *Sailor Off the Bremen* by Irwin Shaw (Random House) belongs to the Bronx-Brooklyn dialogue school of City College smarties, taxi-drivers, hooligans. John O'Hara, one of the originators of this school, collects *Files on Parade* from the magazines (Harcourt, Brace), expert style with no interesting subject. Susan Ertz is sophisti-

cated and entertaining in *Big Frogs and Little Ponds* (Harper). In *Tales Before Midnight* Stephen Vincent Benét has stories that range from the early Romans to the latest Americans (Farrar & Rinehart).

From the Italian of the late Luigi Pirandello, Nobel Prize winner, are 19 stories or *novellas* expounding his idealistic philosophy in *The Medals and Other Stories* (Dutton). Maxim Gorki's 15 short stories are collected in translation by various hands, edited by A. Yarmolinsky and Baroness Moura Budberg (Holt) in *A Book of Short Stories*, from 1894 to 1924, with a preface by Aldous Huxley.

Dorothy Parker collects her short stories in *Here Lies* (Viking) in which there is seen a development toward more serious thought. William Saroyan has 27 stories, or impressions, in *Peace It's Wonderful* (Modern Age). William March collects his dependable short stories in *Some Like Them Short* (Little, Brown). The unusual talent of Katharine Anne Porter is seen in *Pale Horse, Pale Rider* (Harcourt, Brace), three stories of great stylistic distinction. Noel Coward's *To Step Aside* (Doubleday, Doran) contains amusing stories by the playwright.

## POETRY

BY PETER MONRO JACK

CRITIC AND LECTURER

### COLLECTIONS AND SELECTIONS

The *Collected Poems of Robert Frost* (Holt) is the most important book of the year and secures Frost a first place in American poetry, which indeed had been his almost since the beginning. The *Collected Poems of Mark Van Doren* (Holt) showing the development of this poet, proficient in nature and character, includes a new group of lyrics, "America's Mythology." The *Collected Poems of Robert P. Tristram Coffin* (Macmillan), 200 poems from six books, with 50 new poems, display the work of this realistic pastoral

poet of Maine. The *Collected Poems* (Dodd, Mead) by John Jerome Rooney, with an introduction by Edwin Markham, includes his best remembered poem, "The Man Behind the Guns" of the Spanish-American War. The English Poet Robert Graves shows, in *Collected Poems* (Random) his versatile, subtle, curious mind, never quite popular. *Slow Wall* is the title of the new and selected poems by Leonora Speyer, a Pulitzer prize winner. There are 25 new poems, noted for metrical music (Knopf). *Selected Poems* by Sister



## POETRY

M. Madeleva (Macmillan) comprises simple devotional pieces.

### LYRIC POETRY

Publication has been less than average, and it has been a slight year for poetry. Edna St. Vincent Millay's *Huntsman, What Quarry?* (Harper) goes back (after the novel excursion in *Conversation at Midnight*) to the lyric form, but with more to think and say. *All In One Breath* by David Morton (Macmillan) is a continuation of Morton's nature lyrics, pieces of observation. *In Time of Mistrust* by Robert Hillyer (Harvard U. Press) is a collection of 14 sonnets spoken at William and Mary. Simple nature lyrics are in Marjorie Allen Seiffert's *The Name of Life* (Scribner's). Nature poems and portraits of New England predominate in Edward Ames Richards' *Time Strikes* (Columbia U. Press). *Wings at Dusk* is by Eugene Edmund Murphy, an ornithologist and physician by profession and an amateur at verse (Longmans, Green). *Water and Light* by Louise Townsend Nicholl (Dutton) is unpretentious and in traditional form. *Mortal Sequence* by Charlotte Wilder (Coward-McCann), contains conventional lyrics, a second book. *This My Letter* by Sara Henderson Hay (Knopf) is a work simple, tender, on religious subjects or with biblical references. *Before the Wind* by Wilbert Snow (Gotham) is a series of Maine seacoast poems. *The High Plains* by Kenneth Porter (Day) contains regional poems of Kansas. Walter Hard's *Vermont Valley* (Harcourt, Brace) makes use of simple regional material for his descriptive and narrative, and artless, verses.

### NEW AND YOUNGER POETS

Kenneth Patchen's *First Will and Testament* (New Directions) was considered important enough to be included in *New Republic's* "One Hundred Notable Books of 1939." Sharp and contemporary, passionate and satirical, it serves equally to indict war and to praise love. Delmore Schwartz's first book, *In Dreams Begin Responsibilities* (New Directions) was extravagantly praised in some

quarters, ignored in others. It includes a long philosophical poem based on "Coriolanus," a story and several lyrics. Possibly still an amalgam, the book is the most intellectually perceptive and technically interesting to come from a younger poet; certainly it is the most promising.

*The Red Kite* by Lloyd Frankenberg (Farrar & Rinehart) was another new volume to receive serious attention. A first book, it pleases with its clean and fresh realizations of difficult and complex material; there is no doubt that Frankenberg has the stamina to develop into an important poet. (He is the first recipient of the Spenser Prize.) The new book by Muriel Rukeyser *A Turning Wind* (Viking), was considered too obscure and symbolistic and less attractive than her two earlier volumes. Archibald MacLeish's *America Was Promises* (Duell, Sloan, and Pearce) is a vague and slight addition to his work, in MacLeish's radio manner of direct exhortation (the promises of Jefferson, Adams, Paine, etc.), the first book of a new publishing firm.

Paul Engle's third book, *Corn* (Doubleday, Doran) goes back to the manner of his best-praised first book *American Song*, eschewing the radical eccentricities of his second, *Break the Heart's Anger*. The first book by Josephine Miles who won the Shelley Memorial Award in 1935 is *Lines at Intersection* (Macmillan), poems noted for precision, discipline, expert technique, restrained wit. August Derleth's *Men Track Here* (Rittenhouse) is the second book of an original from Wisconsin. Alvin Foote's *Poems* (Caxton) are apprentice work. *Death Loses a Pair of Wings* by Robin Lampson (Scribner's) is a narrative of Gen. William Gorgas and his conquest of yellow fever. John Curtis Underwood's *Interpreters* (Putnam's) is a series of journalistic, dramatic monologues on scientists and workers of various kinds.

### ANTHOLOGIES

Regional anthologies continue in volume and interest. *The Songs America Sings* edited by Hendrik Wil-



lem Van Loon and Grace Castagnetta (Simon & Schuster) combines the history and life of the country through its patriotic and folk songs. *An Anthology of New Hampshire Poetry*, edited by the N. H. Federation of Women's Clubs, includes Robinson, Frost, W. R. Benét, Margaret Widemer, Joy Davidson, and others. *The New Green Mountain Songster*, edited by Helen Hartness Flanders, Elizabeth Ballard, George Brown, and Phillips Barry (Yale), is a record of the traditional folk songs of Vermont. The collection was first begun in 1823, compiled by "Unknown Soldier of Sandgate" and entitled *Green Mountain Songster. Folk Songs of Old New England* (Macmillan), compiled by Eloise Hubbard Linscott, contains ballads, singing games, country dances, sea chanteys.

*Gauley Mountain*, folk poems and ballads of mountain life in West Virginia, is by Louise McNeill (Harcourt, Brace). *Ballad Makin' in the Mountains of Kentucky* (Holt) by Jean Thomas preserves much old balladry and unfamiliar material. *Ballads and Songs of Southern Michigan* (Michigan U.), collected and edited by Emelyn Elizabeth Gardner and Geraldine Jencks Chickering, is made up especially of lumberjack songs.

*Recusant Poets* by Louise Imogene Guiney (Sheed & Ward) is an anthology launched by Father Geoffrey Bliss, S.J. and finally brought to conclusion after Miss Guiney's death by Grace Guiney and Edward O'Brien. The first volume is from Sir Thomas More to Ben Jonson. *The Poets' Work* is a miscellaneous anthology from Chaucer to Christopher Morley by John Holmes (Oxford). *The Triad Anthology of New England Verse*, compiled by Louise Hall Littlefield (Falmouth), contains a representation of 175 poets, including Hillyer, Frances Frost, Coffin, M. Hartley, etc.

#### ENGLISH AND IRISH POETRY

John Masfield's *Tribute to Ballet* (Macmillan) continues his agreeable habit of writing poems with the pictures of Edward Seago. V. Sackville-West's *Solitude* is a long, contin-

uous poem of the English countryside (Doubleday, Doran). Eileen Dugan is a New Zealand poet whose *Poems* are introduced by Walter de la Mare (Macmillan). *Inner Landscape* by May Sarton is a book of slight lyrics (Houghton Mifflin). *Taliessin Through Logres* by Charles Williams (Oxford), poems by a distinguished writer, is most obscurely and symbolically written. In *Journey to a War*, by W. H. Auden and Christopher Isherwood (Random) Auden writes a cycle of sonnets and some various poems on the theme of war, suggested by his journey through China. *Kings and the Moon* is James Stephens' new and somewhat different lyrics on the theme of loneliness (Macmillan). Lord Dunsany includes travel verses, elegies, epigrams, etc. in his *Mirage Waters* (Dorrance).

#### TRANSLATIONS

No doubt the best poetry of the year has come by way of translation. The *Duino Elegies* by Rainer Maria Rilke, one of the great poems of the century, is translated by J. B. Leishman and Stephen Spender (Norton). The German text is given, and there is an introduction and comment. The *Poems* (Oxford) of F. Garcia Lorca, who was killed during the Spanish Civil War, are translated by Stephen Spender and J. L. Gili. The Spanish text is given. The selection and an introduction are by R. M. Nadal. The *Antigone* of Sophocles is admirably translated by Dudley Fitts and Robert Fitzgerald (Harcourt, Brace).

Other translations are *A Garden of Peonies*, from the Chinese into English verse by Henry H. Hart (Stanford U. Press), a third selection, 82 poets from the 3rd century, A.D. to the end of the Manchu dynasty. *Arcadia Borealis* is by Erik Axel Karfeldt, a Swedish Nobel Prize winner, whose poetry is for the first time made available in English by Charles Wharton Stork (Minnesota U. Press). In *Original Poems* by Arthur William Ryder the most important section is the translations from the Sanscrit by a professor who devoted his life to

## HISTORY

its literature and language (California U. Press).

### DRAMA, RADIO

*On the Frontier* is a play by W. H. Auden and Christopher Isherwood on war in Europe (published early in the year), with verse choruses (Random). Norman Corwin who writes and produces for the radio had some success with his *They Fly Through the Air With the Greatest of Ease*, a radio drama in verse on a modern air raid, produced Feb. 19, hardly standing up in print. Alfred Kreymborg in *The Four Apes and Other Fables*

of *Our Day* (Loker Raley) has been exceptionally successful in adapting his poetry and drama to the radio. The ten short plays in verse are original and were broadcast over N.B.C. Garcia Lorca's Spanish drama *Blood Wedding* (New Directions) is translated by Gilbert Neiman. An item of some interest is that New Directions has published a selection from *The Greenberg Manuscripts*. Greenberg is the unknown poet whose verse in manuscript influenced Hart Crane; indeed Crane plagiarized almost a whole poem.

## HISTORY

BY PAUL H. BUCK

ASSOCIATE PROFESSOR, HARVARD UNIVERSITY

### GENERAL

Although history deals with the past, historians like other men live in the present. The many and profound changes which have occurred in recent years have left heavy impress upon the writing of history. The American Historical Association gave emphasis to this fact in devoting much of the program of its annual meeting in Washington "to evaluating accepted historical interpretations, to calling attention to phases of the past of special significance to our age, and to discussing problems of technique for handling both new and old matters and arriving at synthesis."

Charles A. Beard once remarked that modern historiography finds nothing alien to it. Recent historical writing in America bears testimony to the ever increasing scope of history and to the tendency of historians to rely heavily upon the findings and the techniques of the other disciplines in the humanities and social sciences. Illustrative of this trend is the *Linguistic Atlas of New England* (American Council of Learned Societies) prepared by Hans Kurath with the collaboration of others. This magnificent tool will be indispensable for future researches of historians as well as of students in many other

fields. It constitutes the first section of a projected *Linguistic Atlas of the United States and Canada*.

### HISTORIES OF GENERAL SCOPE

Few histories of general scope appeared during the year. Charles A. and Mary Beard published *America in Mid-Passage* (Macmillan), a detailed narrative of the 1930s. This work serves as a third and concluding volume of the authors' widely acclaimed *Rise of American Civilization*. V. F. Calverton, *The Awakening of America* (Day), incisively surveys the movements of unrest in Colonial America from a provocative leftist point of view. H. E. Bolton, *Wider Horizons of American History* (Appleton-Century), is a collection of four essays emphasizing the author's insistence that Spanish activity in the Southwest is necessary for proper understanding of American colonial history. F. L. Paxson, *America at War* (Houghton Mifflin), is the second volume of the author's *American Democracy and the World War*.

### COLONIAL AND REVOLUTIONARY HISTORY

P. Miller's *The New England Mind: The Seventeenth Century* (Macmillan) is a sturdy and highly

authoritative treatise on Puritan thought and the first volume in a projected series which will trace the intellectual history of New England through Emerson. S. E. Morison, *The Second Voyage of Columbus* (Oxford), adds to our knowledge of exploration. Various aspects of colonial life are described competently in R. Semmes, *Crime and Punishment in Early Maryland* (Johns Hopkins); R. F. Seybolt, *Town Officials of Colonial Boston* (Harvard); H. R. Shurtleff, *The Log Cabin Myth* (Harvard); R. C. Strickland, *Religion and the State in Georgia in the Eighteenth Century* (Columbia); C. F. Trudell, *Colonial Yorktown* (Dietz); and H. B. Yoshpe, *The Disposition of Loyalists' Estates in the Southern District of the State of New York* (Columbia).

C. L. Lundin, *Cockpit of the Revolution* (Princeton), tells the story of New Jersey in the conflict. R. B. Morris, ed., *The Era of the American Revolution* (Columbia), comprises a group of essays written by former students of, and inscribed to, Prof. Evarts Boutwell Greene.

#### CONSTITUTIONAL HISTORY

H. C. Hockett, *The Constitutional History of the United States*, volume one, 1776-1826, and volume two, 1826-1876 (Macmillan) gives a much needed synthesis, noteworthy for its accuracy and judiciousness. A third volume will complete the work.

#### POLITICAL HISTORY

Chapters on political history are treated in S. H. Hopkins, *Incredible Era* (Houghton Mifflin), an account of the Harding period; L. D. Baldwin, *Whiskey Rebels* (Pittsburgh), a narrative of the insurrection of 1794; C. J. Child, *The German-American in Politics 1914-1917* (Wisconsin); L. Filler, *Crusaders for American Liberalism* (Harcourt, Brace), an account of the muckrakers; A. R. Newsome, *The Presidential Election of 1824 in North Carolina* (North Carolina); and J. R. Mock and C. Larson, *Words that Won the War* (Princeton), a record of the Committee on Public Information, 1917-1919.

#### CIVIL WAR AND RECONSTRUCTION

Published posthumously and edited by E. M. Coulter is U. B. Phillips' *The Course of the South to Secession* (Appleton-Century). Others studied the relation of abolition to secession in D. L. Dumond, *Anti-Slavery Origins of the Civil War in the United States* (Michigan); A. Craven, *The Repressible Conflict* (Louisiana State); A. Y. Lloyd, *The Slavery Controversy, 1831-1860* (North Carolina); and W. S. Savage, *The Controversy Over the Distribution of Abolition Literature, 1830-1860* (Association for the Study of Negro Life and History). A local approach is J. C. Sitterson, *The Secession Movement in North Carolina* (North Carolina).

The Confederacy receives study in E. Lonn's well-documented and informative *Foreigners in the Confederacy* (North Carolina); B. J. Hendrick's readable and challenging *Statesmen of the Lost Cause* (Little, Brown); and A. J. Hanna's interesting *Flight into Oblivion* (Johnson), a narrative of the flight of the Confederate civilian leaders after the evacuation of Richmond. The work of a key railway in the struggle is told in F. P. Summers' *The Baltimore and Ohio in the Civil War* (Putnam). Also dealing with the era of the war and its aftermath are R. W. Shugg, *Origins of Class Struggle in Louisiana* (Louisiana State), a social history of white farmers and laborers in the period from 1840 to 1875; and S. F. Horn, *Invisible Empire: the Story of the Ku Klux Klan, 1866-1871* (Houghton Mifflin), an effort at popularization.

#### DIPLOMATIC HISTORY

A. W. Griswold's *The Far Eastern Policy of the United States* (Harcourt, Brace) is a solid contribution. P. J. Treat's *Diplomatic Relations between the United States and Japan, 1895-1905* (Stanford) is the third volume of a standard work. Monographs on various phases of diplomatic history are: L. E. Ellis, *Reciprocity, 1911* (Yale); J. H. Ferguson, *American Diplomacy and the Boer*



## HISTORY

War (Pennsylvania); A. H. Morrissey, *The American Defense of Neutral Rights, 1914-1917* (Oklahoma); and L. B. Shippee, *Canadian-American Relations, 1849-74* (Yale).

### ECONOMIC HISTORY

Studies that are models of their kind—pioneering in approach and authoritative in research—are J. B. Hedges, *Building the Canadian West* (Macmillan), a study of the land and colonization of the Canadian Pacific Railway; and R. G. Albion, *The Rise of New York Port, 1815-1860* (Scribners). The wide range of interest in economic history is illustrated by the following list of studies: C. Abrams, *Revolution in Land* (Harper); W. H. Clark, *Railroads and Rivers* (Page); C. S. Davis, *The Cotton Kingdom in Alabama* (Auburn, Ala., Printing Co.); P. H. Giddens, *The Birth of the Oil Industry* (Macmillan); R. M. Hower, *The History of an Advertising Agency: N. W. Ayer & Son at Work, 1869-1939* (Harvard); W. J. Lane, *From Indian Trail to Iron Horse* (Princeton), a study of transportation in New Jersey from 1620 to 1860; S. Livermore, *Early American Land Companies: Their Influence on Corporate Development* (Commonwealth Fund); J. B. McFerrin, *Caldwell and Company, a Southern Financial Empire* (North Carolina); and P. I. Wellman, *The Trampling Herd* (Carrick and Evans), the story of the cattle range.

### SOCIAL HISTORY

Even more varied was the range of the social historians. Among the many books in this category are: H. M. Bond, *Negro Education in Alabama; a Study in Cotton and Steel* (Associated Publishers); K. Burton, *Paradise Planters* (Longmans, Green), the story of Brook Farm; J. G. Carroll, *Slave Insurrections in the United States, 1800-1865* (Chapman & Grimes); A. L. Crosby, *Adventures in Utopia* (Oxford), a study of American communistic experiments; E. H. Davidson, *Child Labor in the Southern Textile States* (North Carolina); P. F. Douglass, *The Story of German Methodism* (Methodist Book Con-

cern); W. E. B. Dubois, *Black Folk—Then and Now* (Holt); H. W. Forman, *Chapters in the History of Social Legislation in the United States to 1860* (Carnegie Institution); M. Gingerick, *The Mennonites in Iowa* (State Historical Society of Iowa); M. Haiman, *Polish Past in America, 1608-1865* (Polish Roman Catholic Union); F. M. Keesing, *The Menominee Indians of Wisconsin* (Pennsylvania); Sister Mary Gilbert Kelly, *Catholic Immigrant Colonization Projects* (United States Catholic Historical Society), covering the years 1815 to 1860; H. Lehmann-Haupt, R. S. Granniss, and L. C. Wroth, *The Book in America; a History of the Making, the Selling, and the Collecting of Books in the United States* (Bowker); D. M. Ludlum, *Social Ferment in Vermont, 1791-1850* (Columbia); A. L. Peale, *Uncas and the Mohegan-Pequot* (Meador); H. Powdermaker, *After Freedom* (Viking), a sociological analysis of the Negro problem since emancipation in a selected southern community; M. Scott, *Chautauqua Caravan* (Appleton-Century); and C. Wittke, *We Who Built America* (Prentice-Hall), a general history of immigration.

### THE WESTWARD MOVEMENT

A work of much more than local interest is S. J. and E. H. Buck, *The Planting of Civilization in Western Pennsylvania* (Pittsburgh), distinguished for its comprehensive scope and thorough research. W. W. Sweet continued his study of *Religions on the American Frontier* (Chicago) by publishing the third volume which deals with the Congregationalists. T. D. Clark, *The Rampaging Frontier* (Bobbs-Merrill), describes through literary remains the manners and humor of pioneer days. Other studies are: K. P. Bailey, *The Ohio Company of Virginia and the Westward Movement, 1748-1792* (Clark); H. E. Briggs, *Frontiers of the Northwest* (Appleton-Century); C. B. Goodykoontz, *Home Missions on the American Frontier* (Caxton); M. B. Jones, *Vermont in the Making, 1750-1777* (Harvard); W. W. Robinson, *Ranchos Become Cities* (San



Pasquale Press); and S. Vestal, *The Old Santa Fe Trail* (Houghton, Mifflin).

#### MILITARY AND NAVAL HISTORY

H. and M. Sprout, *The Rise of American Naval Power, 1776-1918* (Princeton), is praiseworthy for its solid research. C. H. Metcalf, *A History of the United States Marine Corps* (Putnam), is a competent study. R. Bourne, *Queen Anne's Navy in the West Indies* (Yale), is a scholarly monograph.

#### HISTORIES OF CITIES

Noteworthy in recent years is the growing attention paid to the role of cities in American history. Worthwhile studies of urban communities are: G. M. Capers, Jr., *The Biography of a River Town* (North Carolina), dealing with Memphis; C. L. de Chambrun, *Cincinnati; Story of the Queen City* (Scribners); H. D. Eberlein and C. V. D. Hubbard, *Portrait of a Colonial City: Philadelphia, 1682-1838* (Lippincott); M. S. Pruett, *History of Gaston County* (Observer Printing House), which has central in its narrative the rise of Charlotte, N.C.; and G. R. Leighton, *Five Cities: The Story of their Youth and Old Age* (Harper), which has readable accounts of Louisville, Shenandoah, Birmingham, Omaha, and Seattle.

#### EUROPEAN HISTORY

In fields other than that of their native country American historians made varied and significant contributions. Some of these works are: R. Alexander, *The Cruise of the Raider "Wolfe"* (Yale), an account of a German raider's voyage, 1916-1918; P. R. Anderson, *The Background of Anti-English Feeling in Germany, 1890-1902* (American University); F. LeV. Baumer, *The Early Tudor Theory of Kingship* (Yale); W. C. Buthman, *The Rise of Integral Nationalism in France* (Columbia); R. P. Churchill, *The Anglo-Russian Convention of 1907* (The Torch Press); E. M. Everett, *The Party of Humanity* (North Carolina), a study of English liberalism as reflected in the *Fortnightly*

*Review* from 1865 to 1874; L. H. Gipson, *Zones of International Friction, 1748-1754*, which constitutes volume four of the author's *The British Empire Before the American Revolution* (Knopf); V. G. Green, *The Franciscans in Medieval English Life, 1224-1348* (St. Anthony Guild Press); S. W. Halperin, *Italy and the Vatican at War* (Chicago); D. Harris, *Britain and the Bulgarian Horrors of 1876* (Chicago); L. A. Harper, *The English Navigation Laws* (Columbia); W. O. Henderson, *The Zollverein* (Macmillan); W. I. Hull, *The Rise of Quakerism in Amsterdam, 1655-1665* (Swarthmore); S. S. Jones, *The Scandinavian States and the League of Nations* (Princeton); M. M. Knappen, *Tudor Puritanism: a Chapter in the History of Idealism* (Chicago); K. S. Latourette, *Three Centuries of Advance, A.D. 1500-A.D. 1800*, which is the third volume of the author's *A History of the Expansion of Christianity* (Harper); W. S. Lewis and R. H. Williams, *Private Charity in England, 1747-1757* (Yale); F. A. Lincoln, *The Starra* (Oxford), which is a study of the contracts between Jews and Normans in England from 1066 to 1290 and their effect on English law and administration; S. K. Lothrop, *Inca Treasure as Depicted by Spanish Historians* (The Southwest Fund); W. E. Lunt, *Financial Relations of the Papacy with England to 1327* (Mediaeval Academy); E. C. Mack, *Public Schools and British Opinion, 1780-1860* (Columbia); M. C. Mason, *Western Concepts of China and the Chinese, 1840-1876* (Seeman); D. Mathew, *The Jacobean Age* (Longmans, Green); J. J. Mathews, *Egypt and the Formation of the Anglo-French Entente of 1904* (Pennsylvania); W. M. McGovern, *The Early Empires of Central Asia* (North Carolina); R. R. Palmer, *Catholics and Unbelievers in Eighteenth Century France* (Princeton); H. I. Priestley, *France Overseas Through the Old Regime* (Appleton-Century); M. Roberts, *The Whig Party, 1807-1812* (Macmillan); W. S. Robertson, *France and Latin-American Independence* (Johns Hopkins); J. R.

## BIOGRAPHY

Strayer and C. H. Taylor, *Studies in Early French Taxation* (Harvard); D. F. Strong, *Austria (October, 1918-March, 1919)* (Columbia); H. H. Tanzer, *The Common People of Pompeii* (Johns Hopkins); J. W. Thompson, *The Literacy of the Laity in the Middle Ages* (California); C. V. Wedgewood, *The Thirty Years War* (Yale); R. Wellman, *Victoria Royal* (Scribners), a study of Victorian style; and F. D. Wormuth, *The Royal Prerogative, 1603-1649* (Cornell).

## BIOGRAPHY

BY MALCOLM OAKMAN YOUNG

REFERENCE LIBRARIAN, PRINCETON UNIVERSITY LIBRARY

### GENERAL

In the *Atlantic Monthly* for April 1939 is a short but brilliant essay "The Art of Biography" by the English novelist Virginia Woolf, the concluding paragraph of which ends: "By telling us the true facts, by sifting the little from the big, and shaping the whole so that we perceive the outline, the biographer does more to stimulate the imagination than any poet or novelist save the very greatest." Sir Humphrey Milford in the *English Speaking World* for March 1939, says: "Those readers who formerly were thought to find a means of escape from reality in fiction, have now transferred their favour to the records of the actual dead." An editorial, "The Perils of Biography," in the *Times* (London) *Literary Supplement* for June 3, 1939, is also to be recommended.

A survey of the year's crop of biographies results in the conclusion that the quality is perhaps a trifle above the average. The judges of the Pulitzer prize winner in the field will have to consider seriously several works. Two of the most important works are by former winners of the prize—Pringle and Burton Hendrick. Allen Nevins, a double winner, and Marquis James have contributed less notable books, while there are other biographers whose product rates high, and for one reason or another should be competitors.

### COLLECTIVE BIOGRAPHIES

E. H. O'Neill has compiled *Biography by Americans* (University of Pennsylvania Press), a 465-page

volume listing by their subjects works from 1658 to 1936. With certain qualifications this is a useful work. Outstanding in this group is Burton Hendrick's *Statesmen of the Lost Cause* (Little Brown), concerned with Jefferson Davis and the members of his cabinet. Randolph G. Adams' *Three Americans* (University of Pennsylvania) is made up of three lectures on Henry Harisse, bibliographer; George Brinley, book collector; and Thomas Jefferson, booklover. Floyd I. McMurray's *Pathways of our Presidents* (Bobbs-Merrill) is a series of brief sketches. *They Worked for a Better World* (Macmillan) by Allan Serger, includes the varied individualities of Roger Williams, Thomas Paine, Emerson, Elizabeth Cady Stanton, Edward Bellamy. Wallace Brockway and Herbert Weinstock have written *Men of Music* (Simon and Schuster). James T. Flexner in his *America's Old Masters* (Viking) includes Benjamin West, Copley, Peale, Stuart. George Slocombe's *Rebels of Art* (McBride) has the subtitle *Manet to Matisse*. Dumas Malone's *Saints in Action* (New York, Abingdon) is by the editor of the *Dictionary of American Biography*. Two more volumes in Fred Eastman's *Men of Power* (Nashville, Cokesbury Press) have as subjects, among others, Lincoln, Tolstoy, John Burroughs.

### THE PRESIDENTS

A somewhat neglected President starts this list: Freeman Cleave's *Old Tippecanoe* (Scribners) is, of course, a biography of William Henry Harrison. Then there is another rather

obscure figure made more alive by Oliver P. Chitwood's *John Tyler: Champion of the South* (Appleton-Century). The library of Lincoln items has had unusually valuable additions. *Lincoln and the Civil War in the Diaries and Letters of John Hay*, selected and with an introduction by Tyler Dennett (Dodd Mead), is a source of first class. Emanuel Hertz has compiled an entertaining volume, *Lincoln Talks* (Viking), anecdotal in nature. An excellent selection of illustrations, with informative commentary make up *Abraham Lincoln, A Biography in Pictures*, with text by Agnes Rogers (Little Brown). Hailed with great favor by all reviewers is Carl Sandburg's continuation of his former work called *The Prairie Years*, namely, *Abraham Lincoln, The War Years* (Harcourt Brace), in four volumes. Illuminating to the main subject and to Theodore Roosevelt is the two-volume work of high rank, Henry F. Pringle's *Life and Times of William Howard Taft* (Farrar and Rinehart). Edith Bolling Wilson's *My Memoir* (Bobbs-Merrill) sheds light on episodes before unknown. The authorized and monumental *Life of Woodrow Wilson* by Ray Stannard Baker (Doubleday Doran) is concluded this year with the seventh and eighth volumes, covering to the Armistice. *The Incredible Era* (Houghton Mifflin) is the life and times of Warren Gamaliel Harding, by Samuel Hopkins Adams, exposing a tragic figure.

#### MEN IN PUBLIC LIFE

The Virginia conservative of the Revolutionary period, Edmund Pendleton, is the subject of a work by Robert L. Hilldrup (University of North Carolina Press). *John Hanson of Mulberry Grove* (Boni) by J. Bruce Kremer, and *John Hanson and the Inseparable Union* (Boston, Meador) by J. A. Nelson, are treatises on the Revolutionary patriot of Maryland. John T. Horton's *James Kent* (Appleton-Century) is a study of the Chief Justice and Chancellor of New York State. B. W. Palmer's *Marshall and Taney* (University of Minnesota Press) is an important contribution.

A valuable addition to Fremont literature is Allan Nevins' *Fremont, Pathmarker to the West* (Appleton-Century). *Joseph E. Brown and the Confederacy* (University of North Carolina Press), by Louise B. Hill, reveals an important but little known figure. *Thaddeus Stevens, the Sinister Patriot* (Harper) is by Alphonse B. Miller. New light on the famous contested election is found in *Samuel J. Tilden* (Dodd Mead), by Alexander C. Flick. Another contribution to constitutional history is Charles Fairman's *Mr. Justice Miller and the Supreme Court, 1862-1890* (Harvard University Press). It is hoped that Josephus Daniels will continue the reminiscences begun in his *Tar Heel Editor* (University of North Carolina Press) in which he covers his early years. Carter Glass, the Virginia senator, is the subject of two works, one by Rixby Smith and Norman Beasley (Longmans Green), and one with the title *Carter Glass, Unreconstructed Rebel* (Roanoke, Institute of American Biography) by James E. Palmer, Jr. *Democracy's Norris* (New York, Stackpole) by Alfred Lief, is, of course, the story of Nebraska's senator. Quite appropriately the list concludes with the following two documents: Sidney Hook's *John Dewey* (John Day), and Marquis James' *Mr. Garner of Texas* (Bobbs-Merrill).

#### MEN OF ACTION

The first recent life of Daniel Boone is the one by John Bakeless (Morrow), humanizing for us the woodsman and frontier maker. Charlotte R. Conover's *Builders in New Fields* (Putnam), includes not only Col. Robert Patterson, pioneer settler of Kentucky and Ohio, but his grandson John Henry Patterson, founder of the National Cash Register Company. *Knight of the Seas* (Liveright) by Valentine Thomson is the latest portrait of John Paul Jones. A little known American traveler of the late 18th century finds life in Kenneth Munford's *John Ledyard: an American Marco Polo* (Morrow). Grant Foreman's *Marcy and the Gold Seekers* (University of Oklahoma



Press) presents Randolph Marcy and the gold rush over the southern route. The Swiss-born James P. Zollinger writes of his fellow countryman Sutter (Oxford Press), of fame in early California. Lee, Grant and Sherman are in Alfred H. Burne's *Study of Leadership in the Campaign of 1864-65* (Scribners). *Blue Jacket, an Autobiography* (Norton) by Fred J. Buenzle presents the navy of 50 years ago. The fighting admiral, Yates Stirling, has written his memoirs in *Sea Duty* (Putnam).

## MEN OF BUSINESS

The merchant prince, Elihu Yale, is the subject of a biography by Hiram Bingham (Dodd Mead). The elder J. P. Morgan's son-in-law, Herbert L. Satterlee, has written the authorized biography of the financier (Macmillan). *Julius Rosenwald: the Life of a Practical Humanitarian* (Harper) by M. R. Werner presents the head of Sears, Roebuck and benefactor of the Negro.

## LITERARY FIGURES

The bibliography of Melville is increased by the illuminating book by Charles R. Anderson, *Melville in the South Seas* (Columbia University Press). A small but delightful volume is M. A. DeWolfe Howe's *Holmes of the Breakfast Table* (Oxford Press). Henry Seidel Canby's *Thoreau* (Houghton Mifflin) is one of the outstanding books of the year. Helen Hunt Jackson, novelist and poet, is the subject of a work by Ruth Odell (Century-Appleton). *Elizabeth Stuart Phelps* (University of Pennsylvania Press) by Mary A. Bennett is a picture of the voluminous New England writer, wife of Herbert Dickinson Ward. The same press published for Martin I. J. Griffin, *Frank R. Stockton*, author of the classic *Casting Away of Mrs. Lecks and Mrs. Ale-shine*, among other things. Also, from the same press, has come the work, *Henry Blake Fuller*, by Constance M. Griffin, on the little known figure of this novelist of the Chicago group of literati of the late 19th century. Capt. Alfred T. Mahan, whose writings have effected the naval poli-

cies of the world, is studied by Capt. W. D. Puleston (Yale University Press). *Lester F. Ward, the American Aristotle* (Duke University Press) is largely a summary and interpretation of the subject's sociological ideas and writings. An anecdotal work is Cyril Clemens' *My Cousin Mark Twain* (Emmans, Penn., Rodale Press). *Jack London and his Times* (Doubleday Doran) is by Joan London.

The Americanized Norwegian novelist, Ole Edvart Rolvaag, is the subject of a work by Theodore Jorgenson and Nora O. Solum (Harper). George W. Howgate has written on George Santayana, philosopher and novelist (University of Pennsylvania Press). *My Day in Court* (Scribners) is the autobiography of the entertaining writer, Arthur Train, who is also a lawyer. Poetry is well represented by the autobiographies of Louis Untermeyer, *From Another World* (Harcourt Brace), and Cale Young Rice, *Bridging the Years* (Appleton-Century). Also, there is *Semi-Centennial: Some of the Life and Part of the Opinions of Leonard Bacon* (Harper). *Mary Austin: Woman of Genius* (N.Y. Gotham House) is by Helen MacKnight Doyle. Edna Ferber's *A Peculiar Treasure* (Doubleday Doran) is an entertaining picture of the novelist's peculiar development. *A Goodly Fellowship* (Macmillan) is an autobiographical work by Mary Ellen Chase, teacher novelist. Perhaps the largest volume of this class is the popular *Autobiography with Letters* (Oxford Press), the rich reminiscences of William Lyons Phelps. Two books by newspaper writers conclude this list: *There is No Return* (Harper) by Philip Jordan, the correspondent, and *Flowing Stream* (Dutton) by Florence Finch Kelley, covering 56 years in journalism.

## ARTISTS

In a flood of art books in 1939 there are several noteworthy biographies. Apparently by coincidence appeared two books related to an artist: *Whistler's Father* (Bobbs-Merrill) by Albert Parry, and *Whistler's Mother* (Little Brown) by Eliza-



beth Munford. An unusual and stimulating volume is the *Gist of Art* (N.Y. American Artists Group), with mixed reminiscence and technical opinions. The same publisher issues William Schack's *And He Sat Among the Ashes*, a biography of the late-to-be-recognized artist, Louis M. Eilshemius. Another independent soul is self-portrayed in George Biddle's *An American Artist's Story* (Little Brown). The cartoonist, Art Young, has illustrated his own *Life and Times* (N.Y., Sheridan House).

Other books to be grouped here are *I Wanted to Be An Actress* (Random House), by Katharine Cornell, as told to Ruth W. Sedgwick; also, *Ruth St. Denis, An Unfinished Life* (Harper). There are two Booth books: *The Man Who Killed Lincoln* (Random House), Philip Van Doren Stern's biography of J. Wilkes Booth, and Otis Skinner's *The Last Tragedian* (Dodd Mead), a biography, with many letters, of Edwin Booth.

Daniel Gregory Mason's *Music in My Time and Other Reminiscences* (Macmillan) is full of his life as composer and teacher and of his many friends. Another pleasing work is Sidney Homer's *My Wife and I* (Macmillan), a picture of the composer and his wife Louise Homer. *An American Musician's Story* (Norton) is by Olga Samaroff Stokowski. Merle Armitage has edited *George Gershwin* (Longmans Green), a volume containing a biographical sketch among contributions by about 40 friends and admirers. Giving possible light on modern music are Isidore Witmark's and Isaac Goldberg's *From Ragtime to Swingtime* (N.Y., Furman); and *The Kingdom of Swing* (N.Y., Stackpole), by Benny Goodman and Irving Kolodin.

#### MEN OF MEDICINE

The unusual amount of biographical material on those in the medical and surgical profession continues. *A Doctor for the People* (Vanguard) by Michael A. Shadid, is the autobiography of the founder of America's first cooperative hospital. *Consultation Room* (Knopf) is the memoir of the woman's doctor, Frederic Loomis.

*Gringo Doctor* (Caldwell, Idaho, Caxton) is the title of I. J. Bush's reminiscences as practitioner in western Texas, while John Kercher's *Fifty Years a Doctor* (Boston, Meador) includes work in Alaska. Two general practitioners give us *The Recollections of a Country Doctor* (Boston, Meador) by James A. Holley, and *Doctor, Here's Your Hat!* (Prentice-Hall) by Joseph A. Jerger. Dr. Anne W. Fearn, a medical worker in China, contributes her autobiography in *My Days of Strength* (Harper). *Fighting for Life* (Macmillan) is the apt title of Dr. S. Josephine Baker's story of her work in the child welfare movement.

#### FIGURES OF VARIED MISSIONS

As a social philosopher, William Penn is treated in a work by Edward C. O. Beatty (Columbia University Press). Francis J. McConnell has added to the recently increasing list of biographies of John Wesley (N.Y., Abingdon). A theologian and father of American geographers now receives his first portrayal for many years in James K. Morse's *Jedidiah Morse, A Champion of New England Orthodoxy* (Columbia University Press). *Gerrit Smith, Philanthropist and Reformer*, by Ralph V. Harlow (Holt) gives light on the abolitionists. A picturesque figure of the 19th century, Orestes A. Brownson, together with his theological and reform struggles, is given us by Arthur M. Schlesinger, Jr. (Little Brown) in a book whose sub-title is *A Pilgrim's Progress*. *Henry George* has a good treatment by Albert Jay Nock (Morrow). Ida M. Tarbell, of the 'muck-raking' group, as well as an able biographer, writes her memoirs in *All in the Day's Work* (Macmillan). The liberal editor, Oscar Garrison Villard, in his *Fighting Years* (Harcourt Brace) also reviews labor and social struggles. *Pages from a Worker's Life* (N.Y., International Publishers) is by William Z. Foster. Another labor leader is the subject of George Soule's *Sidney Hillman* (Macmillan). *It Can Be Done* by James Hudson Maurer (Rand School) also adds to light on the past 50 years of labor and socialist movements. *Ad-*

ventures in *Giving* by William H. Matthews (Dodd Mead) is the autobiography of the social worker. To conclude this group is *The Bishop Jots It Down* (Harper) by the Bishop of Oklahoma, Francis C. Kelley.

#### FOREIGN SUBJECTS

An early French trader in our West, Barthelemy Tardiveau, is well drawn by Howard C. Rice (Johns Hopkins University Press) and a different type of Frenchman, St. Vincent de Paul of the 17th century, is reproduced by Theodore Maynard (Dial Press). A satisfying volume, *The Life and Death of Louis XVI* (Appleton-Century), is by Saul K. Padover. Clarence E. Macartney and Gordon Dorrance have collaborated in *The Bonapartes in America* (Philadelphia, Dorrance). Again Simon Bolivar is recalled in *Man of Glory* (Morrow) by Thomas Rourke (pseudonym for Daniel J. Clinton). The Mexican painter, Diego Rivera, is Bertram D. Wolfs's subject (Knopf). The 19th century composer, Anthony Philip Heinrich, is restored by William T. Upton (Columbia University Press). An excellent work is DeLancey Ferguson's *Pride and Passion, Robert Burns, 1759-1796* (Oxford Press). Among other subjects are *John Skelton, Laureate* (Columbia University Press) by William Nelson; *Sir William D'Avenant, Poet Laureate and Playwright-Manager* (University of Chicago Press); *Matthew Prior, Poet and Diplomatist* (Columbia University Press) by Charles K. Eves; *Joseph Ritson, Scholar-at-arms* (University of California Press) by Bertrand H. Bronson; *Life and Work of William Gilpin* (University of Illinois Press) by William D. Templeman; *Mr. Cibber of Drury Lane* (Columbia University Press) by Richard H. Barker. *Lord Macaulay, Victorian Liberal* (University of Oklahoma) is the title of an analysis by Raymond C. Beatty. Townsend Scudder has given us a vigorous figure in his biography of Jane Welsh Carlyle (Macmillan). Harold G. Merriam gives us sidelights of Lamb, Landor, the Brownings, and others in his *Edward Moxon, Publisher of Poets* (Columbia University Press).

#### MISCELLANEOUS

The 18th century Pennsylvanian, known as an early cartographer, Lewis Evans, is the subject of a treatise by Lawrence H. Gipson (Historical Society of Pennsylvania). Carl Crow, authority on the Far East, writes of Townsend Harris who largely established America's trade there, in *He Opened the Door of Japan* (Harper). Two San Francisco characters of the early days are presented in Allen S. Lane's *Emperor Norton, the Mad Monarch of America* (Caldwell, Idaho, Caxton), and James A. B. Scherer's *The Lion of the Vigilantes: William T. Coleman and the Life of Old San Francisco* (Bobbs-Merrill). A highly entertaining picture of a period and an individual (his father) is in *Country Lawyer* by Bellamy Partridge (Whittlesey). Charles Goodyear of india rubber fame is portrayed by Ralph F. Wolf (Caldwell, Idaho, Caxton). Hutchins Hapgood's autobiography, *A Victorian in the Modern World* (Harcourt Brace) includes his contacts with many liberals of the early 20th century. *Hardly a Man is Now Alive* (Doubleday Doran) is the self story of Dan Beard. Another version of Will Roger's life is entitled *My Cousin Will Rogers, Intimate and Untold Tales* (Putnam). George Palmer Putnam has written *Soaring Wings* (Harcourt Brace), the story of the ill-fated Amelia Earhart, his wife. Illuminating to municipal affairs is Lowell M. Limpus' *Honest Cop: Lewis M. Valentine* (Dutton). *Wide Road Ahead* (Dutton) is the memoirs of Anne B. Fisher, bacteriologist. *A Life with Men and Books* (N.Y., Wilson) is the autobiography of the eminent librarian Arthur E. Bostwick. H. Gordon Garbedian has produced a popular life of Albert Einstein (Funk and Wagnalls). To conclude this much varied group are four biographies of educators: James D. McCallum's *Eleazar Wheelock* (Dartmouth College Publications); Jerome Dowd's *Life of Braxton Craven* (Duke U. Press), first President of Trinity College; *Neilson of Smith* (Brattleboro, Daye) by Hubert Her-ring; and Nicholas Murray Butler's *Across the Busy Years* (Scribners).

## TRAVEL

BY ELIZABETH T. PLATT

LIBRARIAN, AMERICAN GEOGRAPHICAL SOCIETY

**FEDERAL WRITERS' PROJECT GUIDES**

Outstanding in the field of travel works for the United States is the great series of guides produced by the Federal Writers' Project. Publication has proceeded rapidly, and the titles of guides already issued are too numerous to list here. Many of the state guides are now completed, a goodly number of city guides comprising New York, Philadelphia, Washington, and New Orleans, and several highway guides. A catalogue listing the published and contemplated volumes is available.

**RIVERS OF AMERICA SERIES**

To the Farrar & Rinehart series Rivers of America, formerly edited by the late Constance Lindsay Skinner, there have been added Blair Niles's *The James*, Carl Carmer's *The Hudson*, and Julian Dana's *The Sacramento: River of Gold*. Earlier published volumes are R. P. T. Coffin, *Kennebec: Cradle of Americans*; Walter Havighurst, *Upper Mississippi: A Wilderness Saga*; Cecile H. Matschat, *Savannee River: Strange Green Land*; and Struthers Burt, *Powder River: Let 'er Buck*.

**UNITED STATES, ALASKA, CANADA**

An informal guide to New England is Charles Hanson Towne's *Jogging Around New England* (Appleton-Century). Of the Pennsylvania Dutch and their country Cornelius Weygandt has written *The Dutch Country: Folks and Treasures in the Red Hills of Pennsylvania* (Appleton-Century). *The Geese Fly High* by Florence Page Jaques, with illustrations by Francis Lee Jaques (University of Minnesota Press), is the delightfully told and delightfully illustrated account of a trip following the ducks and geese down the Mississippi flyway to the Rainey Wild Life Sanctuary, Louisiana.

In *The Lure of Alaska* (Stokes) Harry A. Franck recounts summer adventures and travels including a visit to the Matanuska Project. The record of a cruise in a small sloop up the coast of Labrador and the penetration of a fiord previously unentered is vividly given by Desmond Holdridge in *Northern Lights* (Viking). The "story of the new white civilization that is springing up in the vast Northwest Territories," a new civilization whose "covered wagon was the airplane" is told by Edgar Laytha in *North Again for Gold: Birth of Canada's Arctic Empire* (Stokes).

**MEXICO AND THE CARIBBEAN**

A "conservative's" account of life below the Rio Grande is to be found in Evelyn Waugh's *Mexico: An Object Lesson* (Little, Brown). Present Mexican trends are analyzed by R. H. K. Maret in *An Eye-Witness of Mexico* (Oxford). For a recent guide to Mexico there is George W. Seaton's *What to See and Do in Mexico: How to Get the Most Out of Your Trip* (Prentice-Hall). *Four Keys to Guatemala* (Funk and Wagnalls) by Vera Kelsey and Lilly De Jongh Osborn is a useful guide and interpretation of the three civilizations making up the "Land of Guatemala," "Indian Guatemala," "Colonial Guatemala," and "Republican Guatemala," including a brief gazetteer of the country. I. T. Sanderson, who earlier accompanied the Percy Sladen expedition to British Cameroons, writes of his voyage to Trinidad, Haiti and Surinam in the attractively printed *Caribbean Treasure* (Viking). Emphasis is on the animal life. Robb White's *In Privateers Bay* (Harper) is an account of the life of the author and his wife on a small island in the British West Indies. Useful for the prospective visitor to the islands is Eleanor Early's *Lands of Delight*



(Houghton Mifflin), a guide to West Indian ports and Daisy Reck's *Puerto Rico and the Virgin Islands* (Farrar & Rinehart) which is "not intended as a guide, but merely an informal introduction to the ways of life among the 2,000,000 Islanders in the American Caribbean."

#### SOUTH AMERICA

In *Seven Grass Huts: An Engineer's Wife in Central- and South-America* (Farrar & Rinehart) Cecile Hulse Matschat describes her experiences in Matto Grosso and Pará, the Chaco, and Bolivia, Patagonia, Darien, and British Honduras. Erna Ferguson, who earlier wrote of Guatemala and Mexico, has recorded her impressions and reactions gained as she journeyed through Venezuela (Venezuela, Knopf). Christopher Sandeman's *A Forgotten River* (Oxford) is a record of a botanist's Peruvian travels in search of rare plants. *To the Lost World* (Knopf) by P. A. Zahl is based on three trips, the object of which was the collecting of giant ants. There is an account of the ascent of Roraima and of the gigantic waterfalls of the Kamarang and Uitschi. Tales of professional orchid hunting in South America are told by Norman MacDonald in *The Orchid Hunters: A Jungle Adventure* (Farrar & Rinehart). Harold H. Noyce, *Back of Beyond* (Putnam), who previously wrote of his Arctic adventures with Stefansson in the Arctic, now relates his adventures in the upper Amazon Valley in the regions of the Rio Negro and Rio Papuri. Desmond Holdridge's account of life on the island of Marajó at the mouth of the Amazon where a feudal society operates the great ranches is told in *Feudal Island* (Harcourt, Brace). *Introduction to Argentina* (Greystone Press) by A. W. Weddell is an informal guide by the American Ambassador to the country, interpreting Argentina for the visitor from the United States. Felix Riesenbergs *Cape Horn* (Dodd, Mead) is "the story of the Cape Horn region, including the Straits of Magellan, from the days of the first discoverers, through the glorious age of sail, to the present time; recount-

ing the exploits of Magellan, Drake, Schouten, Fitzroy, Darwin, Melville, and many others, including the author's own experiences."

#### EUROPE

F. F. Darling's *Wild Country* (Macmillan) is "a highland naturalist's notes and pictures" of birds, animals and plants in the more rugged parts of Scotland and England. *The Land of France* (Scribner) by Ralph Dutton and Lord Holden, is an "informal guide" with many photographs. Ruth M. Anderson's *Gallegan Provinces of Spain: Pontevedra and La Coruña* (Hispanic Society), illustrated with more than 675 photographs, is an account of travel in northwest Spain with much information on the life and customs of the country. The history, legends, and economic background of the river country of the Danube have been graphically portrayed by Emil Lengyel in *The Danube* (Random House). Sixty-four photographs of life in Czechoslovakia with an accompanying text is the work of Margaret Bourke-White and Erskine Caldwell collaborating in the preparation of *North of the Danube* (Viking). Agnes Rothery who has written much on the Scandinavian countries has now added to her list *Norway: Changing and Changeless* (Viking). Ronald Seith, *Estonian Journey* (McBride) tells of "travels in a Baltic corner." An intimate picture of Russia in transition is depicted in Harry and Rebecca Timbres' *We Didn't Ask Utopia: A Quaker Family in Soviet Russia* (Prentice Hall).

#### ASIA

For Tibet there has been an unusual amount of material. F. Spencer Chapman's *Lhasa: The Holy City*, with an Introduction by Sir Charles Bell (Harper) is a record of six months' stay in Lhasa in 1936-1937 when unusual circumstances permitted an excellent opportunity for study of local conditions. A visit to Lhasa is also described in Theodor Bernard's *Penthouse of the Gods* (Scribners); here the predominating theme is the religion of the country.



A. A. Heim and August Gansser's *The Throne of the Gods: An Account of the First Swiss Expedition to the Himalayas*, translated by Eden and Cedar Paul (Macmillan) is an important account of mountain climbing in Garhwal. *Five Miles High* (Dodd, Mead) edited by Robert H. Bates and written by the members of the Karakoram expedition is "the story of an American attack on the second highest mountain in the world." *Salween*, by Ronald Kaulback (Harcourt, Brace) is a record of a 22 months' journey of which most of the time was spent in a previously unexplored section of Tibet. Although the main objective of the journey, the source of the Salween, was not achieved, much was accomplished.

Maurice Collis' *Lords of the Sunset: a Tour in the Shan States* (Dodd, Mead) is an attempt to "bring the Shans on to the printed page" and describes the author's travels in Eastern Burma. Mona Gardner's *The Menacing Sun* (Harcourt, Brace) tells of the lands and peoples of Indo-China, Siam, Malaya, Java, and India and particularly of "each of those countries in their relation to Japan." Freya Stark's *Seen in the Hadramaut* (Dutton) contains 130 beautifully produced photographs taken by the author accompanied by brief descriptive notes. A pleasant record of travel in northern Persia—the object was the collection of flowers for the British Museum—is Alice Fullerton's *To Persia for Flowers* (Oxford). In Ruth Gruber's *I Went to the Soviet Arctic* (Simon & Schuster) are the observations of a young American newspaper woman.

#### AFRICA

There has been a revision of Otto Martens and Oskar Karstedt's useful guide to West, South, and East Africa (*The African Handbook*, Westermann). *The Unveiling of Timbuctoo*—*The Astounding Adventures of Caillié* (Morrow) is Galbraith Welch's story of his pilgrimage to Timbuctoo following the path of René Caillié who for long bore the title of the first white man to see and describe Timbuctoo. *Serengeti* by Audrey

Moore (Scribners) is "an account of the wild life and safari in the African game sanctuary, Serengeti," Tanganyika. Eileen Bigland's *The Lake of the Royal Crocodiles* (Macmillan) tells of journey to the Bemba country in Northern Rhodesia. Sidney J. Legendre's *Okavango: Desert River* (Messner) is an account of an expedition of the Academy of Natural Sciences of Philadelphia to the region of the Ovambos in Southwest Africa in 1935.

#### AUSTRALIA, BORNEO, HAWAII

*Koonwarra* (Oxford) deriving its title from an aboriginal word meaning Black Swan is Charles Barrett's record of "a naturalist's adventures in Australia," adventures taking him pretty well over the continent and to some of the outlying islands. Paul McGuire's *Australia: Her Heritage, Her Future* (Stokes) is a survey of present-day Australia written by one born in Australia. *Land Below the Wind* (Little Brown) is an informal record of four years in North Borneo, by Agnes Newton Keith, the wife of the Conservator of Forests and Director of Agriculture. It received the Atlantic non-fiction award. A guide for the Hawaiian visitor has been prepared by Sydney A. Clark (*Hawaii*, Prentice Hall).

#### POLAR REGIONS

Vilhjalmur Stefansson's *Unsolved Mysteries of the Arctic* (Macmillan) is a record of five enigmas of the Arctic—the disappearance of the Greenland colony in the middle ages, the lost Franklin expedition, the strange fate of Thomas Simpson, the death of Andrée, and the missing Soviet flyers. Here also ought to be noted Stefansson's *Iceland: The First American Republic* (Doubleday, Doran) which pictures modern Iceland and, although not a travel book in the ordinary sense of the word, would be of interest to any one contemplating an Icelandic trip. Ivan Papanin's diary recording the famous drift of the North Pole Expedition on an ice floe is now available in *Life on an Ice Floe* (Messner). *Southern Lights: The Narrative of the British*

## CRITICISM AND BELLES LETTRES

*Graham Land Expedition 1934-1937* by John Rymill (Harper) is the official account by the leader of the expedition. Extensive work on surveys and mapping was accomplished. Of the life and work of that great contributor to scientific exploration and research in the Polar regions, Jean Charcot-Marthe Oulié has written in *Charcot of the Antarctic*.

### GENERAL AND HISTORICAL

Antoine de Saint Exupéry's *Wind, Sand and Stars* (Reynal) is a spiritual record of the author's extensive flying experiences as air mail pilot. In *Soaring Wings* (Harcourt, Brace) George P. Putnam has given "an informal and intimate record of Amelia Earhart's life." Mary Sheridan Fahnestock's story of her trip around the world, part of which included the adventures recorded by her sons in *Stars to Windward* (THE AMERICAN YEAR BOOK, 1938) is told in *I Ran Away to Sea at Fifty* (Harcourt,

Brace). *Seven Seas on a Shoestring* (Harper) by Dwight Long tells of a cruise around the world in a tiny boat. Irving Conklin's *Guideposts of the Sea* (Macmillan) is a photographic story with text of the U. S. Lighthouse Service and of the modern aids to navigation and how they are cared for. Richard Maury's *The Saga of "Cimba"* (Harcourt, Brace) is "the tale of a cruising schooner at sea, trekking island to island" from Nova Scotia to Fiji. *The Second Voyage of Christopher Columbus from Cadiz to Hispaniola and the Discovery of the Lesser Antilles* (Oxford) by S. E. Morison is a study based upon library research and "personal reconnaissance of that part of Columbus' Second Voyage described herein." *The Manila Galleon*, William Lytle Schurz (Dutton), is a record of the Spanish galleons which linked Mexico and the Orient in the years from 1565 to 1815, crossing the Pacific between Manila, the Philippines, and Acapulco.

## CRITICISM AND BELLES LETTRES

BY PETER MONRO JACK

CRITIC AND LECTURER

### CRITICAL THEORY

The discussion of literature in terms of sociology, politics, economics, Marxism, Freudianism, etc., continues. *Ideas Are Weapons*, the title of Max Lerner's collection of essays and reviews (Viking), might stand for this general tendency in critical theory. Most interesting was Bernard Smith's *Forces in American Criticism* (Harcourt, Brace), a reinterpretation of the history of American literature through the history of its criticism. Following the pattern set by Parrington's *Main Currents in American Thought*, Smith goes further in disputing the older Puritan influence on the one hand and the modern Catholic influence of T. S. Eliot on the other, substituting a materialistic and "scientific" critique of literature. Marxist in principle, Smith softens his standards to make them appear native democracy and pragmatism. A

similar soft-pedaling of the unpromising Marxism of the last few years is noticeable in Granville Hicks' Guggenheim study of British literature in *Figures of Transition* (Macmillan) in which Morris, Butler, Hardy, Gissing, Wilde, Moore, and Kipling are set against the changing organization of society. Marxist theory has been the most important recent innovation in American literary criticism. More and more it is accepting traditional values. That it has been responsible for a certain sharpening of critical writing is obvious when one compares Hicks' book with an English study of the same period. Malcolm Elwin's *Old Gods Falling* (Macmillan), on Moore, Stevenson, Galsworthy, etc., is merely personal and irresponsible, and adds nothing to critical understanding.

The theory of Humanism is restated in G. R. Elliott's *Humanism*

and *Imagination* (U. North Carolina), reconciling the divergent views of Babbitt and More, and defining imagination as the "religion of poetry" and the "poetry of religion." In *True Humanism* Jacques Maritain argues that modern humanism is false and the humanist must go back to the Church (Scribner's). Further discussion will be found in *The Meaning of the Humanities*, five essays by Ralph Barton Perry, A. C. Krey, Edwin Panofsky, Robert Lowry, Gilbert Chenard; preface by Robert K. Root, and editorial introduction by Theodore M. Greene (Princeton U. Press). Not a humanist but concerned with problems of good and evil in literary theory is Prof. G. Wilson Knight in *The Burning Oracle* (Oxford), on Spenser, Milton, and others.

An emergent compromise is to be found in *Modern Poetry, A Personal Essay* (Oxford) by the young English poet, Louis MacNeice, who argues that the poet should be a man of affairs but that he should avoid both propaganda and surrealism. Ezra Pound's new work on literature and criticism is called simply *Culture* (New Directions), from Confucius to Gaudier, and includes the relation of writing to social credit, Fascism, etc. Pound has also published his *Polite Essays* through the same press. In *Defense of Letters* by George Duhamel, trans. by E. F. Bozman (Grey-stone), a member of the French Academy deplores the effect of the radio and the cinema on writing and reading habits. A useful controversy is to be found in *The Personal Heresy* (Oxford) in which E. M. W. Tillyard argues for, and C. S. Lewis argues against, the poet's personality as a standard of criticism. *The Poet's Defense* by J. Bronowski (Macmillan) examines what poets have written about their practice and theory, from Sidney to Shelley, Yeats, Housman, interesting as a rebuttal to the latter's *The Name and Nature of Poetry* (Cambridge U. Press). *Arts and the Man* (Norton) by Irwin Edman shows how the arts "clarify, vivify and unify" experience. An excellent undertaking is "Living Thoughts Library" (Longmans) edited by Alfred

O. Mendel. Each volume contains a long critique, followed by carefully chosen excerpts. Eight volumes have been published: *Schopenhauer* by Thomas Mann, *Thoreau* by Dreiser, *Montaigne* by Andre Gide, *Tolstoi* by Stefan Zweig, *Darwin* by Julian Huxley, *Rousseau* by Romain Rolland, *Nietzsche* by Heinrich Mann, and *Mazzini* by Ignazio Silone.

In *The American Drama Since 1918* by Joseph Wood Krutch (Random) there is an illuminating discussion of dramatic criticism especially as it relates to the whole of literary theory. Maxwell Anderson discusses poetry and drama and its criticism in *The Essence of Tragedy* (Anderson). With his translation of *The Sea Gull* by Anton Chekhov (Scribner's) Stark Young writes a critical preface on the art of translating and on the understanding of the author's mind (Scribner's).

#### SPECIAL STUDIES: ENGLISH

**Shakespeare.**—No doubt the best written criticism of the year was Mark Van Doren's *Shakespeare* (Holt). *Shakespeare in America* (Macmillan) by Esther Cloudman Dunn is a well-documented record of how America took to Shakespeare in the theatre, in the house, and in public. In *This Shakespeare Industry* (Harper) Ivor Brown and George Fearon trace the rise of Shakespeare's reputation to the "amazing monument" that it now is. It includes the economic aspects, praises the Folger Library, etc. *The Fourth Forger* by William Mair (Macmillan) is the story of 19-year-old William Ireland of the late 18th century who pretended to have discovered new Shakespeare papers and successfully passed them off for a time.

**The Brontës.**—The yearly books on the Brontës include *The Miracle of Haworth* by W. Bertram White (Dutton), no new material and rather sentimentalized; and *Pattern for Genius* by Edith Ellsworth Kingsley (Dutton) part fiction, part biography, emphasizing Bramwell Brontë.

**Coleridge, Wordsworth, etc.**—E. K. Chambers's *Samuel Taylor Coleridge* (Oxford) is biographical. Law-



rence Hanson begins the biggest biography of Coleridge with *The Life of S. T. Coleridge: The Early Years, 1772-1800* (Oxford). Lionel Trilling's *Matthew Arnold* (Norton) is a careful and complete study of Arnold's mind, showing its consistency. *Jane Austen and Her Art* by Mary Lascelles (Oxford) is practically the first book devoted to the development of Miss Austen's writing. *William Wordsworth of Rydal Mount* by Frederika Beatty (Dutton) is a picture of Wordsworth's later years, designed to remove the reproach that the poet was prosy, ultra-conservative, genteel, etc.

**Byron.**—In *To Lord Byron* (Scribner's) are collected many unpublished letters (1807-24) from infatuated women to the poet. Begun by George Paston (Miss E. M. Symonds) the book was finished after her death by Peter Quennell. Caroline Lamb, one of the correspondents, appears also in Lord David Cecil's admirable *The Young Melbourne* (Bobbs-Merrill).

**Burns and Others.**—The best modern biography and criticism of Robert Burns is *Pride and Passion* by Delancey Ferguson (Oxford). Townsend Scudder writes a sympathetic record of *Jane Welsh Carlyle* (Macmillan). The historically useful *Greville Memoirs, 1814-60*, the editing of which had been begun by Lytton Strachey, is complete in 8 vols. ed. Roger Fulford (Macmillan).

**Stevenson.**—Two new books on R. L. Stevenson are *Stevenson at Silverado* by Anne Roller Issler (Caxton) reminiscences of Stevenson in California, married, in ill-health, and poor; and *Home From the Sea* by Richard A. Bermann, trans. by E. R. Hapgood, the recollections of an Austrian's acquaintance with Stevenson at Samoa (Bobbs-Merrill).

#### SPECIAL STUDIES: AMERICAN

*Thoreau* by Henry Seidel Canby (Houghton Mifflin) is at last a worthy biography of this great individualist whose fame has been growing. *Orestes A. Brownson* by Arthur M. Schlesinger, Jr. (Little, Brown) is subtitled "A Pilgrim's Progress" and is a welcome account

of the friend of Emerson, Thoreau, Ripley, Parker. *Holmes of the Breakfast Table* by M. A. DeWolfe Hopper (Oxford) is a slight but witty memorial. *Melville in the South Seas* by Charles R. Anderson (Columbia U. Press) contains important discoveries of his life there where had hitherto been assumptions. *My Cousin Mark Twain* by Cyril Clemens (Emmaus, Pa.) has a number of anecdotes to tell, with an introduction by Booth Tarkington. Helen MacKnight Doyle writes of *Mary Austen* (Gotham) with the subtitle "Woman of Genius." Ruth Odell writes of *Helen Hunt Jackson* (Appleton) of "Ramona" fame.

#### CORRESPONDENCE

*The Letters of William and Dorothy Wordsworth, the Later Years* is a collection in 3 vols. by Ernest de Selincourt (Oxford). *The Letters of Ralph Waldo Emerson* is edited by Ralph L. Rusk in 6 vols. Especially interesting is the correspondence with Carlyle (Columbia U. Press). *The Letters of Charles Dickens* in 3 vols. (10,000 letters) is edited by Walter Dexter (Nonesuch). The letters date from 1832; many are published for the first time; some are interesting for their American information, and this is the definitive edition. *The Letters of T. E. Lawrence* of Arabia is edited by David Garnett (Doubleday, Doran). The letters he wrote to his biographers, Robert Graves and Liddell Hart, are published in 2 vols. by Doubleday, Doran. Graves is a poet and Hart is a military authority, and in writing to each Lawrence shows the two contradictory sides of his nature.

#### SPECIAL STUDIES: CONTEMPORARY

*Bernard's Brethren* by Charles Macmahon Shaw (Holt) gives a different and more respectable picture of the Shaw family than George Bernard Shaw has irreverently given. Written by his brother in Australia, the book has witty marginal comments by G. B. The annual studies of D. H. Lawrence are admirable. The first is by Knud Merrill, who



knew him in New Mexico, and is called *A Poet and Two Painters* (Viking). The other is a critical study of Lawrence's ideas, a kind of unconscious and symbolic theosophy, by William York Tindall, called *D. H. Lawrence and Susan His Cow* (the cow is one of the symbols) and published by Columbia U. Press. In *The Writings of E. M. Forster* Rose Macaulay catalogues, describes, and annotates the writing of this individual and influential English novelist (Harcourt, Brace). *Ole Edvard Rølvaag* is a biography of the Norwegian-American writer of "Giants in the Earth" by Theodore Jorgenson and Nora Solum (Harper). *Edgar Wallace*, subtitled "Biography of a Phenomenon" (Doubleday, Doran) is an account of the fabulous writer of mystery stories.

#### SPECIAL STUDIES: FOREIGN

The most important critical studies of foreign writers were F. C. Green's *Stendhal* (Macmillan), the best critical study in English of this pioneering novelist of the modern mind; *Flaubert and Madame Bovary* by Francis Steegmuller (Viking), a double portrait showing how Flaubert's mistress in real life (Louise Colet) sat for Madame Bovary in fiction; *Arthur Rimbaud* by Enid Starkie (Norton) an authoritative book on the young poet who abandoned poetry when he was 19 after having revolutionized it; and *The Spirit of Voltaire* by Norman L. Torrey (Columbia U. Press), a study of his personality.

#### THE ESSAY

The essay has suffered with the disappearance of the literary magazine. The *Essay Annual* (Appleton), edited by Erich Walter, is the best attempt at keeping the essay form alive. What follows is essayistic in idea if not always in traditional form. *Men, Women, and Places* by Sigrid Undset, trans. from Norwegian by Arthur G. Chater, is perhaps the best of the belles lettres, a Catholic evaluation, with a notable essay on D. H. Lawrence (Knopf). In the familiar vein is Christopher Morley's *Letters of*

*Askance* (Lippincott), his twelfth collection. *The Privilege of Age* by Vida Scudder (Dutton) is a collection of 25 essays, secular and spiritual, from Plato to Lenin. *I Believe* is edited by Clifton Fadiman (Simon and Schuster) and presents the personal philosophies of many living writers: Mann, Forster, Santayana, Thurber, Krutch, etc. *Sometime—Never* by Clare Leighton, the illustrator (Macmillan), is her escapé from a stormy crossing on a boat with 500 refugees into pleasant memories of the past, with her illustrations. *Orchard's Bay* by Alfred Noyes (Sheed & Ward) has garden essays and poems from his home on the Isle of Wight. In *Green Grows the City* Beverley Nichols changes from his country gardens to a London suburb and tells how he improved it (Harcourt, Brace). *A Gathering of Birds* by Donald Culross Peattie (Dodd, Mead) is an anthology of essays on birds by noted naturalists. *Bird Watching Days* by A. W. P. Robertson and R. D. Powell is a charming account of British birds (Collins).

#### HUMOROUS

In *The Strangest Places* Leonard G. Ross writes with humor and perception sketches of unusual corners of Washington, Los Angeles, Chicago, New Orleans, etc. (Harcourt, Brace). Arthur Kober has 43 sketches, mainly magazine pieces on characters, in *Pardon Me For Pointing* (Simon & Schuster). Essays, skits, parables, prophecies are to be found in the serious humor of E. B. White's *Quo Vadimus? or The Case for the Bicycle* (Harper). James Thurber also uses the parable form in his humorous history with drawings of civilization in *The Last Flower* (Harper). *I Lost My English Accent* by C. V. R. Thompson (Putnam's) is an amusing account of the Americanization of an Englishman who married a New York newspaper woman. There are many genial criticisms by the way and the book is a companion piece to the earlier successful *With Malice Toward Some* (Simon & Schuster). *Small Beer*, with drawings by the author, is Ludwig Bemelmans' half-

sketches, half-stories, in expert style, and sometimes as grave as they are gay. Stephen Leacock humorously travesties literary habits in *Model Memoirs* (Dodd, Mead).

#### DIDACTIC

*Castle in the Dark* by Irwin Edman (Viking) is subtitled "A Postscript to Despair" and is an extended essay in philosophic thinking, a plea for scientific method to restore reason for living. *Morals for Moderns* by Ralph Habas (Liveright), with an introduction by W. H. Van Loon, also pleads for intelligence applied to moral behavior. *You'd Better Come Quietly* (Sheed & Ward) are Catholic essays in the easy style of Leonard Feeney, S.J. *Solitude and Society* by Nicholas Berdyaev (Scribner's) is on the necessity of Christian communion. *Of Human Freedom*, by Jacques Barzun (Little, Brown), is provocative, analytical, germinative on an inexhaustible subject. *Plato Today* is O. R. H. S. Crossman's guess at what Plato would be thinking of our modern civilization (Oxford). *The Catholic Crisis* by George Seldes (Messner) suggests that the Church will eventually be drawn into the conflict between Right and Left and will be forced to take action. Stephen Leacock dislikes new and lightweight innovations in education in *Too Much College* (Dodd, Mead).

*The New England Mind* by Perry Miller (Macmillan) is an extended essay showing how much of the seventeenth-century attitude was still medieval and scholastic, full of new and important aperçus. *Victoria Royal* is a series of fashion sketches of "the flowering of a style" by Rita Wellman (Scribner's). *The Chinese Are Like That* by Carl Crow is a gay and informal account of the qualities that have made the Chinese survive (Harper). *Fathers are Funny* is Frederic F. Van de Water's rueful account of what it is to be a parent, with many serious remarks on the father-son relationship (Day). *McConnachie and J. M. B.* contains Barrie's speeches, from 1893 to 1935, with preface by Sir Hugh Walpole (Scribner's). In the *Lives of Wives* Laura Riding

writes part history, part fiction, part essay, on the wives of famous pre-Christian men (Croesus, Alexander, Caesar, etc.), with more patience for the women than for the men (Random). Virgil Thomson's *The State of Music* (Morrow), though ostensibly about music, is so witty and diverting about everything connected with the arts that it is in the best essay tradition.

*Let the Record Speak* (Houghton Mifflin) contains Dorothy Thompson's political essays and prophecies from her syndicated column. *Writing Up the News*, ed. Miriam Lundy (Dodd, Mead), contains essays by 19 reporters, including Harry Hansen on book reviewing. *You Americans* (Funk & Wagnalls) gives the journalistic impressions of 15 foreign correspondents. Helen P. Kirkpatrick writes an essayistic interpretation of the news from England in *Under the British Umbrella* (Scribner's).

#### THE AMERICAN SCENE

Under the general designation of Belles Lettres the following Americana should be included: The Rivers of America Series, conceived and edited by Constance Lindsay Skinner, including *The Hudson* by Carl Carmer, especially the history of its folkways, from 1609; *The Sacramento, River of Gold*, by Julian Dana; *The James*, by Blair Niles, Virginia history from Pocahontas to Carter Glass (all published by Farrar & Rinehart); *Connecticut River*, its history with illustrations, by Marguerite Allis (Putnam's); *Life Along the Connecticut River*, with photographs, the text by Marion Hooper (Brattleboro).

*Maine Summer* is a leisurely appreciation by Edwin Valentine Mitchell, with illustrations (Coward-McCann). *Ranging the Maine Coast* is the log of a cruising yachtsman, by Alfred Loomis (Norton). *Captain Abby and Captain John* is Robert P. Tristram Coffin's re-creation of the clipper-ship era centering in Maine (Macmillan). *Jogging Through New England* (Appleton) is a sentimental journey by Charles Hanson Towne. *Salts of the Sound* (Daye) is the story of steamboats on Long Island Sound from

1815 to the present by Roger Williams McAdams.

*American Earth* by Carleton Beals (Lippincott) is subtitled "The Biography of a Nation" and is concerned with the problems of waste: erosion, the Dust Bowl, the loss of top soil, timber, etc. *Vanishing Lands* by G. V. Jacks and R. C. Whyte (Doubleday Doran) is also concerned with erosion and is a world survey. *Flowering Earth* by Donald Culross Peattie (Putnam's) is the story of the plant kingdom of North America.

Serious appraisal of the American scene is to be found in Simeon Strunsky's *The Living Tradition* (Doubleday, Doran) in which, humorously and honestly, he surveys and defends the inherent conservatism of America. Laurence Greene uses scissors and paste-pot to recall newspaper stories, part historical, part journalistic, part biographical, part psycho-pathological, of the twenties in what he calls *The Era of Wonderful Nonsense* (Bobbs-Merrill).

*Grandfather Was Queer* by Richardson Wright (Lippincott) is a collection of early American true stories, with old prints. The folklore, ballads, legends of New York State are collected in *Body, Boots and Bitches* by Harold W. Thompson (Lippincott). In *American Saga* Marjorie Barstow records the "history and literature of the American Dream of a Better Life" through pertinent quotation (Whitelsey). America, she adds, is a "land of buried dreams."

#### WORDS, PRINTING, BOOKS

*Don't Say It* by John B. Opdycke (Funk & Wagnalls) is a useful and

clever *Cyclopedia of English Use and Abuse*. *Communication* is an important philosophical study of language by Karl Britton (Harcourt, Brace). *Language and Reality* by Wilbur Marshall Urban continues his discussion of Meaning. It is subtitled "The Philosophy of Language and the Principles of Symbolism" and its object is to substitute the word "authentication" for "verification" in the nature of meaning (Macmillan). A pleasant way of recognizing good and bad English is to be found in Charles Allen Lloyd's *We Who Speak English* (Crowell). Holbrook Jackson's *The Printing of Books* (Scribner's) contains 20 informal essays on the art of typography since the pre-Raphaelites, illustrated. John T. Winterich writes on *Books and the Stories Behind Them* (California) and reintroduces the reader to the books through his stories of their publication. *A History of American Magazines* is being recorded by Frank Luther (Harvard), vol. 2 from 1850 to 1865, vol. 3 from 1865 to 1885, recording also American society. Paul S. Clarkson has compiled a *Bibliography of William Sydney Porter (O. Henry)* (Caxton). An account of Edward Moxon, the publisher of almost every well-known Victorian writer, has been written by Harold G. Merriam in his *Edward Moxon: Publisher of Poets* (Columbia). *The Book in America* is a history of the making, the selling, and the collecting of books in the United States by Hellmut Lehmann-Haupt, Ruth Shepherd Granniss, and Lawrence C. Wroth (Bowker). It is the first comprehensive survey and a notable addition to bibliography.

## ENGLISH LANGUAGE AND LITERATURE

BY ALLAN G. CHESTER

ASSISTANT PROFESSOR, UNIVERSITY OF PENNSYLVANIA

#### GENERAL

The present survey of American research in the field covered, like its predecessors, is selective. Many studies concerned with details too technical for the layman are omitted

although they are often of considerable importance to the philologist and the literary historian. A complete list of such contributions will be found in the bibliography by A. C. Baugh, A. B. Harbage, and the present author



in the Supplement to the *Publications of the Modern Language Association (PMLA)*.<sup>1</sup> The reader should also consult Hardin Craig's "Recent Literature of the English Renaissance" (*SP*), Richmond P. Bond's "English Literature, 1660-1800: A Current Bibliography" (*PQ*), Walter Graham's "The Romantic Movement: A Current, Selective and Critical Bibliography" (*ELH*), and the "Victorian Bibliography" (*MP*) compiled by the Victorian research group of the Modern Language Association, all of which except the first include foreign as well as American work. H. K. Russell, "Theses for the Year" (*South Atlantic Bull.*) lists M.A. and Ph.D. theses, published and unpublished in English and the modern languages.

#### THE ENGLISH LANGUAGE

Kemp Malone has continued his survey of this field with "Some Linguistic Studies of 1937 and 1938" (*MLN*). Three general studies should be noted. W. J. Burke has supplied a bibliography of *The Literature of Slang*. Porter G. Perrin's *An Index to English*, while primarily a handbook for students, should be mentioned for its admirable historical approach. *Compounding in the English Language*, by Alice M. Ball, is a comparative review of the authorities on this topic. In the field of Old English philology Sherman M. Kuhn has made a study of "The Dialect of the Corpus Glossary" (*PMLA*). For the Middle English period Norman E. Eliason has traced "The Short Vowels in French Loan Words like *city*, etc."

<sup>1</sup> Periodicals are cited under the following abbreviations, the reference being always to the volume for the year covered by this review:—*PMLA*, *Publications of the Modern Language Association of America*; *MP*, *Modern Philology*; *MLN*, *Modern Language Notes*; *MLR*, *Modern Language Review*; *JEGP*, *Journal of English and Germanic Philology*; *SP*, *Studies in Philology*; *PQ*, *Philological Quarterly*; *ELH*, *A Review of English Literary History*; *RES*, *Review of English Studies*; *ELH*, *English Literary History*; *HLQ*, *Huntington Library Quarterly*; *SAB*, *Shakespeare Association Bulletin*; *RR*, *Romanic Review*. Titles appearing as theses or in the publications of universities are followed where possible by the name of the university.

(*MLN*), while Harold Whitehall has printed, with linguistic commentary, "A Most Ancient Petition," dated 1344, (*PQ*). The same author has traced "The Etymology of Middle English *myse*" (*PQ*). In the modern field, William Matthews has studied the "Southwestern Dialect of the Early Modern Period" (*Neophilologus*). In "The Problem of the Hybrid Language" (*JEGP*), Murat H. Roberts examines the intermixture that results from the use of two languages in one community. Eston E. Ericson offers some "Observations on New English Syntax" (*Anglia*). Thomas Pyle's "Tempest in Teapot: Reform in Latin Pronunciation" (*ELH*), which considers the history of Latin pronunciation in England from the Renaissance to the present, will be of interest to students of English as well as of Latin. "The Motivation of Lindley Murray's Grammatical Work" (*JEGP*), by Allen W. Read, supplies much fresh information. Three studies of the English language in America may be mentioned in this section—Harold Wentworth's "Mr. Horwill and American Language Levels" (*PMLA*), Harry A. Rositzke's "Vowel-length in General American Speech" (*Lang.*), and Einar Hangen's "Notes on Voiced T in American English" (*Dialect Notes*).

#### GENERAL LITERATURE

Elizabeth Schneider's *Aesthetic Motive* and Maxwell Anderson's *The Essence of Tragedy, and Other Footnotes and Papers* are both studies of considerable interest. James Feibleman has written *In Praise of Comedy* and De Lancey Ferguson "On Humor as One of the Fine Arts" (*So. Atl. Qu.*). *Masters of Dramatic Comedy and their Social Themes* is a careful study by Henry T. Perry. Poetry continues to be a fertile field of comment and criticism. *Poetry and Anarchism* is a discussion by Herbert Read of the poet's relations to political questions, while J. Bronowski, in *The Poet's Defense*, studies the critical theories of major poets from Sidney to Yeats. Allan H. Gilbert raises the question, "Did Plato Banish the Poets or the Critics?" (*SP*).



James A. McPeck's *Catullus in Strange and Distant Britain* (Harvard) and Helen Muchnic's *Dostoevsky's English Reputation, 1881-1936* (Smith College) are interesting studies in comparative literature. Herbert J. Smith discusses the function of the critic in "Literary Criticism: Cudgels or Scales." *The Chapin Library: A Short-Title List*, by Lucy E. Osborne, is a valuable guide to the splendid collection at Williams College. More specialized studies are "Fable, Action, Unity, and Supernatural Machinery in English Epic Poetry 1650-1800" by H. T. Swedenberg (*Englische Studien*), and "The Faust Legend and the Christian Tradition" by Arpad Steiner (PMLA). James W. Thompson has written on *The Medieval Library* (Chicago).

#### OLD ENGLISH LITERATURE (TO 1150)

In "Ancients, Moderns, and Saxons" (ELH) Rosemond Tuve discusses the beginnings of Anglo-Saxon scholarship in reformation polemics. In a paper included in the work of J. W. Thompson mentioned above, Ramona Bressie supplies an account of "Libraries of the British Isles in the Anglo-Saxon Period." Cecilia A. Hotchner has written *Wessex and Old English Poetry, with Special Consideration of "The Ruin,"* a study of the place of composition. Kemp Malone's "A Note on *Widsith* 76-78" (JEGP) and "Becca and Seafola" (*Englische Studien*) mark the continuing zeal of this scholar for Old English poetry, as do his "Hygelac" (*Eng. Studies*) and "Notes on Beowulf" (*Anglia*). W. W. Lawrence, in "Grendel's Lair" (JEGP), replies to views advanced in 1938 by W. S. Mackie, while Bernard F. Huppé offers "A Reconsideration of the Ingeld Passage in *Beowulf*" (JEGP). Other new interpretations of the literature of this period are to be found in Genevieve Crothy's "The Exeter Harrowing of Hell: A Re-interpretation" (PMLA), Marcus Konick's "Exeter Book Riddle 41 as a Continuation of Riddle 40" (MLN), and Stephen J. Herben's "The Ruin" (MLN). In "Aldhelm's Diocese of Sherborne *bewestan wuda*"

(*Harvard Theol. Rev.*) Francis P. Magoun, Jr. favors the interpretation "To the west of the (Hampshire) Weald."

#### MIDDLE ENGLISH LITERATURE

A work of interest to students of this period is James W. Thompson's *The Literacy of the Laity in the Middle Ages* (Univ. of California). John R. Reinhard's *Medieval Pageant* is an anthology of medieval story designed primarily for the general reader. S. Harrison Thomson has written on the *Progress of Medieval Studies in the United States and Canada* (Univ. of Colorado). Of more specialized studies several may be noted. Katharine Hukanir contributes "Further Notes on the Date of *The Owl and the Nightingale*" (*Anglia*) in which she reaffirms the date 1182-83 against the criticism of Tupper. Rossell H. Robbins has studied "The *Arma Christi* Rolls" (MLR) and argues convincingly that in the form of rolls, with accompanying illustrations, the poem was intended to be hung on the wall of the church. The same author has written on "Private Prayers in Middle English Verse" (SP), "Popular Prayers in Middle English Verse" (MP), and "The Gurney Series of Religious Lyrics" (PMLA). "Three Anglo-Norman Translations of the *Veni Creator Spiritus*" is the title of an article by S. H. Thomson (MA).

During 1939 the romance received somewhat less attention than usual. Helaine Newstead's *Bran the Blessed in Arthurian Romance* (Columbia) is the most ambitious study in this field. The subject of "Armor and Weapons in the Middle English Romances" has been investigated by Robert W. Ackerman (*Research Studies, State College of Wash.*). William A. Nitze and Archer Taylor have made a survey of "Some Recent Arthurian Studies" (MP). An important article on *Piers Plowman* is "The A-Text of *Piers Plowman* and the Norman Wars" (PMLA), in which Bernard F. Huppé argues for a date of composition between 1370-76 instead of the conventional 1362. Coolidge O. Chapman has investigated "Numerical Symbolism in Dante and the *Pearl*" (MLN). The

first of three articles on "The Banns of the Chester Plays" has been printed by F. M. Salter (*RES*). In "Style in the English Mystery Plays" (*JEGP*), Henry W. Wells distinguishes three separate manners in the cycles—liturgical, rhetorical, and colloquial.

The most considerable work concerned with the literature of the fifteenth century is Carleton Brown's edition of the *Religious Lyrics of the XVth Century*. This collection of 192 lyrics completes the author's projected series of three, and shows the same care and acumen which characterized the other two. Roger S. Loomis, in "Malory's Beaumains" (*PMLA*), questions the suggestions that Malory was recalling an exploit of Richard Beauchamp, Earl of Warwick, and proposes a derivation of the name Beaumains from Gauvains. Ramona Bressie has published a library catalogue of the period from "MS. Sloane 3548, Folio 158" (*MLN*), and H. R. Mead has written an account of "Fifteenth-Century School-books" (*HLQ*) based largely on copies in the Huntington Library. Albert C. Baugh has described a "Biblia Cum Glossis (1481)" (*Univ. of Penna. Library Chronicle*). In "Robert Henryson and the Fulgentian Horse" (*MLN*) Marshall W. Stearns traces back to Fulgentius a tradition preserved in the *Testament of Cressid*. Carleton Brown notes that "See Myche, Say Lytell, and Lerne to Soffer in Tyme" (*MLN*), a poem sometimes assigned to Lydgate, is attributed to "R. Stokys" in one MS.

#### CHAUCER

Chaucer continues to attract a large measure of attention from American scholars. *On Rereading Chaucer* is the title of a volume by Howard R. Patch. A clue to Chaucer's reading is suggested in Robert A. Pratt's "Chaucer and the Visconti Libraries" (*ELH*). Haldeen Braddy, in "Chaucer and Graunson: The Valentine Tradition" (*PMLA*), argues that Graunson's poems are of autobiographical significance and that Chaucer followed this tradition in his Valentine poems. "The Beginnings of Chaucer's Irony" is the subject of

a study by Earle Birney (*PMLA*), while Robert M. Estrich traces the resemblance between "Chaucer's Prologue to the *Legend of Good Women* and Machaut's *Le Jugement dou Roy de Navarre*" (*SP*). Chaucer's *Troilus* has been the subject of two special studies—Willis Wager's "Fleshly Love in Chaucer's *Troilus*" (*MLR*), and Arthur Mizener's "Character and Action in the Case of Criseyde" (*PMLA*). In the latter, it is argued that the character of Criseyde is conceived as fixed, not changing under the influence of circumstance and not determining the action. John S. Kenyon, in "Wife of Bath's Tale 1159-62" (*MLN*), proposes a textual emendation. "Death and Old Age in The Pardoner's Tale" has been studied by Marie P. Hamilton (*SP*). Ramona Bressie's "'A Gouverneur Wily and Wys'" (*MLN*) is an account of William de Cloune, abbot of Leicester (1345-78) whose character and career parallel those of Chaucer's Monk.

#### SIXTEENTH CENTURY LITERATURE

The early Tudor period has supplied the subjects for a number of interesting studies during the past year. William Nelson's *John Skelton, Laureate* (Columbia) is the culmination of this scholar's numerous studies of Skelton. Of interest to students of literature, although not on a strictly literary subject, is M. M. Knappen's *Tudor Puritanism. A Chapter in the History of Puritanism* (Univ. of Chicago), which traces the origin of Puritanism to pre-Reformation times. "Erastianism and Divine Right" has been investigated by Edward A. Whitney (*HLQ*). Harold H. Hutson and Harold K. Willoughby emphasize the influence of "The Ignored Taverner Bible of 1539" (*Crozier Quarterly*). "The Sonnets in *Tottel's Miscellany*" have been studied by William R. Parker (*PMLA*). The present writer has discussed "The Date and Authorship of the *Fraternite of Vacabondes*" (*MLN*).

For the Elizabethan period, Elkin C. Wilson has made a study of the idealization of the queen in the

poetry of her age in his book entitled *England's Eliza* (Harvard). Elizabethan habits of thought are the subjects of "Time and Fortune" by Samuel C. Chew (*ELH*), "Memory, the Warder of the Brain" by Carroll Camden (*PQ*), and "A Note on Pessimism in the Renaissance" by Arnold Williams (*SP*). Hereward T. Price's "Grammar and the Composer in the Sixteenth and Seventeenth Centuries" (*JEGP*) is a spirited defense of the compositor against the charge that he did what he pleased with an author's grammar.

Spenser is once more the subject of several articles. C. Bowie Millican has printed "The Supplicats for Spenser's Degrees" (*HLQ*) from the Cambridge records, and Alexander C. Judson has sketched the life of Thomas Watts, Archdeacon of Middlesex (Indiana Univ.), who may have sent Spenser to Pembroke Hall. In "*The Faerie Queene* and *Arthur of Little Britain*" (*SP*), Sarah Michie indicates that the romance is important among Spenser's sources. Also concerned with sources is C. Bowie Millican's "Spenser's and Drant's Poetic Names for Elizabeth" (*HLQ*), which traces the names Tan-aquil, Gloria, and Una to a Latin poem by Drant. In "The Belge Episode in the *Faerie Queene*" (*SP*), Viola B. Hulbert portrays Leicester's campaign in the Low Countries more favorably than is generally done and interprets the episode in Book V accordingly. Rudolf Gottfried has supplied a discussion of "Irish Geography in Spenser's *View*." (*ELH*).

Among articles dealing with the non-dramatic literature of the Elizabethan period we may note Tucker Brooke's reprint of the Huntington Library copy of *Pareus*, "A Latin Poem by George Peele?" (*HLQ*). An interesting investigation of "Drayton's First Revision of His Sonnets" by F. Y. St. Clair (*SP*) shows the extent and character of the changes in the *Idea* and offers plausible explanations from popular taste and factors in the poet's life rather than from literary influences. Jean Robertson's "*The Passions of the Spirit* (1599) and Nicholas Breton" (*HLQ*)

is a study of the relation of the printed work to the MSS. of *The Countesse of Penbrooke's Passion*, of which the *Passions of the Spirit* is a version. Donald Smalley has written on "The Ethical Bias of Chapman's *Homer*" (*SP*). In "Notes on Hooker's Prose" (*RES*) Daniel C. Boughner furnishes an analysis of Hooker's rhetorical and stylistic devices. Kenneth T. Rowe, in "The Countess of Pembroke's Editorship of the *Arcadia*" (*PMLA*), argues that the revisions in the Countess's edition are not by Lady Mary but are Sidney's own revisions in the MS. she used. Rudolf Kirk has edited Sir John Stradling's translation of Justus Lipsinus's *Two Books of Constancie* (Rutgers); Clayton M. Hall supplies the notes for the work.

As usual, however, the bulk of Elizabethan scholarship is concerned with the drama and with Shakespeare. Of more general studies of the drama may be noted J. E. Bernard's *The Prosody of the Tudor Interlude* (Yale) and Henry W. Wells's *Elizabethan and Jacobean Playwrights*. Alfred Harbage's "Elizabethan Acting" (*PMLA*) is a cogent argument for the formal as opposed to the natural type of acting in Elizabethan times. In "Hill's List of Early Plays in Manuscript" (*The Library*), Joseph Q. Adams describes a list of MS. plays made by Abraham Hill, the antiquarian, and preserved in the British Museum. Dr. Adams tentatively identifies many titles of plays not otherwise known. Howard Baker, in his *Induction to Tragedy* (Louisiana), studies the development of form in *Gorboduc*, *The Spanish Tragedy*, and *Titus Andronicus*. Sara R. Watson's "*Gorboduc* and the Theory of Tyrannicide" (*MLR*) points out parallels with Christopher Goodman's *How Superior Powers Ought to be Obeyed* (1558) and contrasts the attitudes of Sackville and Norton towards the basis of royal authority. Celesta Wines has supplied new biographical data on "Nathaniel Woodes: Author of the Morality Play *The Conflict of Conscience*" (*RES*). In "Lyly" (*ibid.*), G. Wilson Knight studies that author's



thought and manner, chiefly in the plays. An important article is Beatrice D. Brown's "Marlowe, Faustus, and Simon Magus" (*PMLA*), which supports the theory of the influence of the Magus tradition on the Faust legend by a number of striking particulars and establishes the probability that Marlowe was acquainted with the *Acts of Peter* (as in Caxton's *Golden Legend*) and the *Recognitions* of Cyprian, thus accounting for the mixture of the heroic and the ignoble in Marlowe's conception of the character. Among numerous studies of Robert Greene we may note the following: Samuel A. Tannenbaum's *Robert Greene, A Concise Bibliography* (Number 8 in the author's series of Elizabethan bibliographies); and John L. Lievsay's "Robert Greene, Master of Arts, and 'Mayster Steeven Guazzo'" (*SP*). The latter demonstrates Greene's familiarity with the *Civile Conversatione* throughout his work, but especially in *Mamillia*, *Penelopes Web*, and *Farewell to Folie*. Another playwright's use of the same source is pointed out in Marcia L. Anderson's "Webster's Debt to Guazzo" (*SP*). William Ringler finds "The Source of Lodge's *Reply to Gosson*" (*RES*) in the *Familiaria in Terentium Praenotamenta* of Jodocus Badius Ascensius (1462-1535), the French scholar and printer. A full and illuminating study of Jonson's views on the English language correlated with his actual practice will be found in Joshua H. Neumann's "Notes on Ben Jonson's English" (*PMLA*). "Ben Jonson and the Hieroglyphics" by Don C. Allen (*PQ*) is on Renaissance interest in hieroglyphics and Jonson's use of their imagined symbolism in his masques. G. F. Sensabaugh has contributed two studies of John Ford—"John Ford and Platonic Love in the Court" (*SP*) and "Ford's Tragedy of Love—Melancholy" (*Englische Studien*).

### SHAKESPEARE

Since there has been no diminution in the output of Shakespeare studies, the section of this article devoted to the greatest of the Eliza-

bethans must be especially selective. In Mark Van Doren's *Shakespeare*, each play is the subject of a critical chapter. In *Shakespeare in America*, Esther C. Dunn is concerned with theatrical history, while Alfred V. Westfall writes on *American Shakespearean Criticism, 1607-1865*. Professor Kittredge's edition carries on with separate volumes for *As You Like It*, *Julius Caesar*, and *The Tempest*. A. L. Everett reconstructs the biography of "Shakespeare in 1596" (*SAB*). Samuel A. Tannenbaum supplies the annual "Shakespeare and his Contemporaries, A Classified Bibliography" (*ibid.*), and Paul E. Stoll comments on "Recent Shakespeare Criticism" (*Shakespeare Jahrbuch*). The latter author's "Shakespeare Forbears" (*MLN*) is a protest against bringing sex-motives not suggested by the poet into the criticism of Shakespeare's plays. Ernest Brennecke's interesting theory of "Shakespeare's Musical Collaboration with Morley" (*PMLA*) has brought forth "A Reply and a Symposium" by John R. Moore (*ibid.*). Edwin R. Hunter suggests an interesting subject for further study in "Shakespeare's Mouthpiece: Manner of Speech as a Mark of Personality in a Few Shakespeare Characters" (*Sewanee Rev.*).

Among John W. Draper's numerous contributions may be noted *The Hamlet of Shakespeare's Audience* (Duke Univ.), "Bastardy in Shakespeare's Plays" (*Shakespeare Jahrbuch*), "Falstaff's Robin and Other Pages" (*SP*), and "Shakespeare's Star-Crossed Lovers" (*RES*). The last is an interpretation of *Romeo and Juliet* in the light of astrological and other pseudo-scientific ideas of Shakespeare's day. In a similar vein is "Romeo and Rosaline" (*Neophilologus*) by John W. Cole, who interprets *Romeo and Juliet* in terms of Elizabethan love-melancholy. George W. Stone gives an account of "A Midsummer Night's Dream in the Hands of Garrick and Colman" (*PMLA*) based upon Garrick's acting copy now in the Folger Shakespeare Library. In "Is This The Promis'd End?" (*Eng. Studien*), Richard H. Perkinson



argues that the "gratuitous pessimism" in *King Lear* was forced upon Shakespeare by his intention from the beginning to change the familiar story to a tragedy. W. W. Lawrence opposes the interpretations of Greg and Wilson concerning "Hamlet and the Mouse-Trap" (*PMLA*) and holds to the view that Claudius saw the dumb show and was not unmoved by it, but could not object, at that point, more than he did without arousing suspicion. Oscar J. Campbell has studied the relations of Jonson's *Comicall Satyre and Shakespeare's Troilus and Cressida* (Huntington Library). Theodore Spencer's examination of Shakespeare's parts in "The Two Noble Kinsmen" (*MP*) reveals the poet's old word-mastery, but the manner of an old man who has lost his hold on the dramatic.

#### SEVENTEENTH CENTURY LITERATURE

Among the writers associated with the early seventeenth century, John Donne continues to arouse the greatest interest. Milton A. Rugoff has made a study of *Donne's Imagery*. R. E. Bennett's "John Donne and Everard Gilpin" (*RES*) supplies data which make it likely that Gilpin was the Mr. E. G. of one of Donne's shorter verse letters. "An interpretation of Donne's Tenth Elegy" is from the pen of Fredson T. Bowers (*MLN*). An interpretation of another difficult passage in the poet's work will be found in George Williamson's "Donne's 'Farewell to Love'" (*MP*). Richard H. Perkinson's "The Polemical Use of Davies' *Nosce Teipsum*" (*SP*) grows out of an examination of changes in seventeenth and eighteenth century editions of that poem. In "James Shirley and a Group of Unnoted Poems on the Wedding of Thomas Stanley" (*HLQ*) Gerald E. Bentley reprints poems by Shirley, Sherborne, Farifax and Hammond found in the Huntington Library copy of *Poems and Translations by Thomas Stanley* (1647), and suggests that Shirley was a member of a group for which Stanley was the patron. "Robert Aylett: A Supplement" (*HLQ*), by

Frederick M. Padelford, casts new light upon that minor poet from a 1625 edition of his poems, the unique copy of which is now in the Folger Shakespeare Library. In "*To Splendor*" (*PMLA*), Willa Evans has edited seven poems from seventeenth century MSS. and attributes them to William Cartwright. In "Lawes' and Lovelace's *Loose Saraband*" (*ibid.*) the same scholar publishes the score of Lawes' music, hitherto thought lost, from a contemporary MS. in the New York Public Library. The MS. contains some two hundred songs. Philip H. Gray's "Suckling's *A Session of the Poets* as a Ballad: Boccalini's 'Influence Examined'" (*SP*) opposes the idea of Italian influence and identifies the *Sessions* with the "Ballad made of the Wits" in a contemporary reference.

Students of seventeenth century thought will find much to interest them in Marjorie Nicholson's "English Almanacs and the 'New Astronomy'" (*Annals of Science*). Ethan W. Kirby's account of "Sermons before the Commons, 1640-1642" (*Am. Hist. Rev.*), Godfrey Davies's "English Political Sermons, 1603-1640" (*HLQ*), and Charles F. Mullett's "Some Seventeenth Century Manuscript Sermon Memoranda" (*ibid.*) reflect an increasing interest in sermon-literature as a criterion of social attitudes. A similar interest attaches to Wilbur C. Abbott's *The Writings and Speeches of Oliver Cromwell*, the second volume of which has been published, and to Luella M. Wright's comparison of "John Bunyan and Steven Crisp" (*Jour. of Religion*).

In a very different vein is *Tom Brown of Facetious Memory. Grub Street in the Age of Dryden* (Harvard), which is Benjamin Boyce's account of the life and work of the foremost hack-writer of the Restoration period. Dryden himself is the subject of an increasing number of studies. Hugh MacDonald has published *John Dryden: A Bibliography*. In "Rochester, Dryden, and the Rose-Street Affair" (*RES*), J. Harold Wilson attempts to exonerate Rochester as an instigator of the cudgeling of Dryden in 1679. Reuben

A. Brower has studied "Dryden's Poetic Diction and Virgil" (*PQ*). Frank L. Huntley's "Dryden, Rochester, and the Eighth Satire of Juvenal" (*ibid.*) is an interpretation of the Preface to *All For Love* as a censure of Rochester based on a Juvenalian framework. For Dryden's contemporaries, Carl Niemeyer has supplied "A Roscommon Canon" (*SP*), and John C. Hodges has pointed out "Fresh Manuscript Sources for a Life of William Congreve" (*PMLA*). Edwin E. Williams, in "Dr. James Drake and Restoration Theory of Comedy" (*RES*), regards Drake's reply to Collier's *Antient and Modern Stages survey'd* as a contribution to the theory of Restoration comedy.

### MILTON

Among many studies of Milton may be noted John S. Diekhoff's *Milton on Himself*, which, as its sub-title informs, is a collection of Milton's *Utterances upon Himself and his Works*. The same author has made a study of "Milton's Prosody in the Poems of the Trinity Manuscript" (*PMLA*). James H. Hanford has once more revised his *Milton Handbook*, and has written also on Milton's sense of his own mission in "That Shepherd Who First Taught the Chosen Seed: A Note on Milton's Mosaic Inspiration" (*Univ. of Toronto QU.*). In "Milton's Homer" (*JEGP*), Harris Fletcher identifies the editions of Homer used by Milton and suggests the care with which he studied the Greek poet. In a significant article Grant McColley has traced "The Debt of Bishop Wilkins to the *Apologia Pro Galileo* of Tommaso Campanella" (*Annals of Science*) in Wilkins's *Discovery and Discourse*, important for their influence on Milton. In "Paradise Lost" (*Harvard Theol. Rev.*), McColley supports the view that the great epic is an "artistic-prophetic utterance of beliefs sacred and vital to Milton," and in "Milton's Lost Tragedy" (*PQ*) concludes that after 1645 and probably during the period 1648-52 Milton designed a tragedy different from the drafts in the Trinity Manuscript. Theodore H. Banks has dif-

ferentiated "The Meaning of 'Gods' in *Paradise Lost*" (*MLN*). "Notes on Some Productions of *Comus*," by Edward C. Peple (*SP*), supplements an earlier study by Thaler. Milton scholars will be interested also in a facsimile reprint edited by E. C. Mossner of the memorial poems written by the friends of Edward King and published in 1638 with the title *Iusta Edovardo King* (Columbia).

### EIGHTEENTH CENTURY

An anthology which links the seventeenth and the eighteenth centuries is *British Dramatists from Dryden to Sheridan*, a collection of 25 plays edited by George H. Nettleton and Arthur E. Case. Richard H. Barker's *Mr. Cibber of Drury Lane* (Columbia) is a much needed biographical account of the hero of the last version of the *Dunciad*. The text and an illuminating study of Defoe's *First Poem* (*A New Discovery*, 1692) have been furnished by Mary E. Campbell, while John R. Moore's *Defoe in the Pillory and Other Studies* (Indiana Univ.) is a series of biographical and critical studies. *The Critical Works of John Dennis. Vol. I 1692-1711* have been edited by Edward H. Hooker (Johns Hopkins). The first volume of Hoxie N. Fairchild's *Religious Trends in English Poetry* (Columbia) is a study of Protestantism and the cult of sentiment between 1700 and 1740. Charles K. Eve's *Matthew Prior, Poet and Diplomatist* (Columbia) contains much new biographical data, while Katherine Prior, "Matthew Prior's 'Welbeloved and dear cossen'" is the subject of an article by H. Bunker Wright (*RES*). Pope is the subject of several articles, of which may be mentioned Howard P. Vincent's "Some *Dunciad* Litigation" (*PQ*) and Elder Olson's "Rhetoric and the Appreciation of Pope" (*MP*). Maynard Mack has written of "The First Printing of the Letters of Pope and Swift" in 1741 (*Library*). Two new biographical studies of Swift have appeared during the year—Robert W. Jackson's *Jonathan Swift, Dean and Pastor* and Lewis Gibb's *Vanessa and the Dean*. The first volume of Her-

bert Davis's *The Prose Works of Jonathan Swift* contains *A Tale of a Tub* and other early works. Duncan Mallam has edited *The Letters of William Shenstone*. A festive title is "Bernard Mandeville on Gin" by Paul B. Anderson (*PMLA*), which is a consideration of the anonymous *Dissertation upon Drunkenness* (1708) as the earliest piece of Mandeville's prose. Jack R. Brown plausibly identifies a letter "From Aaron Hill to Henry Fielding" (*PQ*) and in doing so has possibly added *A Rehearsal of Kings* to the Fielding canon. "Fielding's Last Season at the Haymarket Theatre" is described by Emmett L. Avery (*MP*).

Johnson and his circle continue to prove a subject of interest. The following articles on Johnson himself may be noted—C. B. Bradford's "The Edinburgh 'Ramblers'" (*MLR*), E. L. McAdam's "Dr. Johnson's Law Lectures for Chambers: An Addition to the Canon" (*RES*), and Roland B. Botting's "Johnson, Smart, and the Universal Visitor" (*MP*). Also of interest to Johnsonians are *The First Magazine: A History of The Gentleman's Magazine, with An Account of Dr. Johnson's Editorial Activity*, by C. Lennart Carlson, and "The Problem of Originality in English Literary Criticism, 1750-1800" by Elizabeth L. Mann (*PQ*). Dixon Weeter has given an account of *Edmund Burke and His Kinsmen: A Study of the statesman's financial integrity and private relationships* (Univ. of Colorado) and of "Sir Joshua Reynolds and the Burkes" (*PQ*). Thomas W. Copley's "Burke and Dodsley's *Annual Register*" (*PMLA*) is an illuminating study. William Angus's "An Appraisal of David Garrick, Based Mainly upon Contemporary Sources" (*Quar. Jour. of Speech*) is on the kind and quality of Garrick's acting. George W. Stone's "Garrick and an Unknown Operatic Version of *Love's Labour's Lost*" (*RES*) describes an adaptation, now in the Folger Shakespeare Library, made by Captain Edward Thompson at Garrick's suggestion. Students of the drama of the period will be interested also in Dougald

Mac Millan's *Catalogue of the Larpent Plays in the Huntington Library*, which describes the plays submitted to the examiner for license between 1737 and 1824. "Edmund Malone," by David N. Smith (*HLQ*), is an account of Malone's scholarly achievement, which was based on an unsurpassed union of learning and honesty. George Nobbe's *The North Briton, A Study in Political Propaganda* (Columbia), is concerned with the career of John Wilkes. Among studies of the poets of the latter part of the century we may note Lodwick Hartley's account of William Cowper in "The Stricken Deer" and His Contemporary Reputation" (*SP*) and DeLancey Ferguson's penetrating *Pride and Passion. Robert Burns, 1759-1796*.

#### NINETEENTH CENTURY

It will be possible to mention only a few of the many studies of nineteenth century literature which have appeared during the year. Edward A. Whitney's "Humanitarianism and Romanticism" (*HLQ*) and Carl Grabo's "Science and the Romantic Movement" (*Annals of Science*) are both interesting studies in background. An account of "The Scott Letters in the Huntington Library," with variant readings from Grierson's printed texts, has been prepared by Mildred Lambert (*HLQ*). Panos Morphopoulos considers "Byron's Translation and Use of Modern Greek Writings" (*MLN*). Among many studies of Coleridge the most considerable is *Wordsworth and Coleridge. Studies in Honor of George McLean Harper*, edited by Earl L. Griggs. Mention may also be made of Thomas M. Raysor's "Coleridge's Criticism of Wordsworth" (*PMLA*), Clarence D. Thorpe's "The Imagination: Coleridge versus Wordsworth" (*PQ*), David Davies's "Coleridge's Marginalia in Mather's *Magnalia*" (*HLQ*), and Henry J. Milley's "Some Notes on Coleridge's 'Eolian Harp'" (*MP*). To the Wordsworth studies cited above should be added Frederika Beatty's *William Wordsworth of Rydal Mount*. "Shelley and Shakespeare" by David L. Clark



(PMLA) is an exhaustive account of Shelley's indebtedness. John H. Smith's "Shelley and Claire Clairmont" (*ibid.*) reexamines the relationship between the two. Other Shelley studies are "The Dating of Shelley's Notes and Translations from Plato" by J. A. Notopoulos (*MLR*), "Probable Dates of Composition of Shelley's 'Letter to Maria Gisburne' and 'Ode to a Skylark'" by Newman I. White (*SP*), and "The Date and Source of Shelley's *A Vindication of Natural Diet*" by David L. Clark (*ibid.*).

Among the poets who flourished somewhat later the Brownings have this year been the subject of greatest interest. In *Letters from Elizabeth Barrett to B. R. Haydon*, Martha H. Shackford has published for the first time 18 autograph letters now in the library of Wellesley College. Fred M. Smith defends "Mrs. Browning's Rhymes" (*PMLA*) as conscious experimentation to extend the range of rime effects. K. L. Knickerbrocker has found internal evidence for the dates of "Browning's Letters to Isabella Blagden" (*ibid.*). B. R. McElderry considers the "Victorian Evaluation of *The Ring and the Book*" (*Research Studies of the State Coll. of Wash.*). In "The Absconded Abbot in *The Ring and The Book*" (*SP*), F. E. Faverty prints nine letters now in the Public Record Office revealing the Abbot's efforts to secure a pension. J. M. Purcell writes of "The Dramatic Failure of *Pippa Passes*" (*ibid.*). Carleton Stanley and Lionel Trilling are the authors of two works which are both entitled *Matthew Arnold*. Janet C. Troxell has made a study of the author's changes in *Rosetti's "Sister Helen."* Of interest to all students of Victorian poetry is Harold G. Merriam's *Edward Moxon, Publisher of Poets* (Columbia).

For the prose of the period, T. E. M. Boll has made an analysis of "Emma as Jane Austen's Satire on Herself" (*N&Q*). *The Miracle of Haworth*, by W. Bertram White, is a study of the Brontë family. In "DeQuincey's *Cessio Bonorum*" (*PMLA*),

Kenneth Forward records the details of the procedure by which in 1832 DeQuincey took advantage of a kind of bankruptcy law peculiar to Scotland. Townsend Scudder has written a biography of *Jane Welsh Carlyle*. Louise Young's *Thomas Carlyle and the Art of History* is a University of Pennsylvania dissertation. Anne K. Tuell describes "Carlyle's Marginalia in Sterling's *Essays and Tales*" (*PMLA*) in a copy now in the Harvard Library. The mutual contempt of "Macaulay and Carlyle" is traced by Richmond C. Beatty (*PQ*). Godfrey Davies writes of "The Treatment of Constitutional History in Macaulay's *History of England*" (*HLQ*). Another interesting biographical and critical study in the field of the essay is William Irvine's *Walter Bagehot*. Clyde K. Hyder furnishes some biographical speculations in his "Wilkie Collins and *The Woman in White*" (*PMLA*). In "*The Eustace Diamonds and The Moonstone*" (*SP*) Henry J. Milley points out Trollope's indebtedness to Collins. Bradford A. Booth prints a MS. description written by "Trollope in California" (*HLQ*). Dickens's account of the medical profession supplies the material for *Doctors, Nurses and Dickens*, by Robert D. Neely. Anne R. Issler's *Stevenson at Silverado* is a record of that writer's life in the Napa Valley. Hardy's use of older material is the subject of both Helen Sandison's "An Elizabethan Basis for a Hardy Tale" (*PMLA*) and Marcia L. Anderson's "Hardy's Debt to Webster in *The Return of the Native*" (*MLN*). "The Chronology of *The Return of the Native*" is considered by Albert A. Murphree and Carl F. Strauch (*MLN*), and the same topic provokes a discussion by John P. Emory and Carl J. Weber (*PMLA*). In "Hardy and *The Woodlanders*" (*RES*), Professor Weber adduces evidence to show that Hardy was dissatisfied with the people in the story, and in "Virtue from Wessex: Thomas Hardy" (*Am. Scholar*) finds in Hardy "one of the great spiritual leaders of the modern world."



## CONTEMPORARY AUTHORS

Mark and Carl Van Doren have revised their *American and British Literature since 1890*. Cyril Connolly's *Enemies of Promise* is a survey of modern literature and the men who write it. In *The Changing World in Plays and Theatre* Anita Block is concerned chiefly with social problems as they are reflected in the drama. Arnold Whitridge gives us a critical appraisal of "William Butler Yeats, 1865-1939" (*Dalhousie Rev.*). Ann Weygandt analyzes *Kipling's Reading and Its Influence on His Poetry*. Florence Clemens's "Conrad's Favorite Bedside Book" (*So. Atl. Qu.*) points out Conrad's indebtedness to Alfred Wallace's *The*

*Malay Archipelago*. Two studies of D. H. Lawrence have been published — *D. H. Lawrence and Susan his Cow* by W. Y. Tindall, and *A Poet and Two Painters* by Knudd Merrild. The amazing linguistic performances of Joyce have provoked Joseph Prescott's "James Joyce: A Study in Words" (*PMLA*) and Archibald Hill's "A Philologist Looks at *Finnegans Wake*" (*Virginia Qu. Rev.*). Helen W. Estrich and C. I. Clicksberg respectively have written "Jesting Pilate Tells the Answer: Aldous Huxley" (*Sewanee Rev.*) and "The Intellectual Pilgrimage of Aldous Huxley" (*Dalhousie Rev.*). Finally, Delmore Schwartz, in "The Two Audens" (*Kenyon Rev.*), detects two voices in the poetry of W. H. Auden.

## GERMANIC LANGUAGES AND LITERATURES

By F. W. KAUFMANN

PROFESSOR, OBERLIN COLLEGE

## GÖTTERDÄMMERUNG IN NAZI GERMANY

America has not only become the refuge for the persecuted minorities of Central Europe, but faces more and more the responsibility of taking an increasing share in saving those literary values which have made the "other Germany" respected among the nations. What danger these values face in national-socialistic Germany appears from an article on "German Modern Language Journals in 1938" (*MLJ*) by W. Gaede. An almost incredible, opportunistic and submissive distortion of literary works has invaded leading educational journals and has made heavy inroads into formerly independent scholarly domains. Fortunately, this country realizes the danger which is threatening European culture and quietly continues to investigate the works of the past, ignoring the confusion of the present.\*

\* Abbreviations: GR = Germanic Review; JEGP = Journal of English and Germanic Philology; MfU = Monatshefte für deutschen Unterricht; PMLA = Publications of the Modern Language Association of America.

## PHILOLOGY

The Linguistic Society of America publishes the late E. Prokosch's *Comparative Germanic Grammar* (Univ. of Pennsylvania). In the first part of his book Prokosch gives critical surveys, origins, and expansions of the Indo-European languages, the various Germanic language groups, their chronology and general tendency of development. The other parts give a comprehensive account of the phonology and the morphology of the Germanic languages. The book combines well-established views of Germanic philologists with the new theories which the author himself contributed to the interpretation of language changes. The chapter on the strong verb is praised by philologists as Prokosch's greatest contribution to the understanding of the history of Germanic languages.

W. F. Twaddell's "The Inner Chronology of the Germanic Consonant Shift" (*JEGP*) examines "various possible criteria for ordering sequentially the several changes of Germanic consonant shift" and comes to the conclusion that the following sequence

allows the least number of unanswerable arguments against it: (a) p, ph to f, (b) f to ð after unaccented vowel, (c) accent fixed on root syllable, (d) bh to ð, (e) n to to ð n to bb, (f) b to p.

G. J. Metcalf studies the *Forms of Address in German* (Washington University Studies) from 1500 to 1800. Basing his research on plays, novels and letters of the period he gives a detailed account of the rise and fall of both pronominal and nominal forms of address.

#### HISTORY OF LITERATURE

R. H. Fife in *Epochs in German Literature* (GR) examines the validity of philosophical and biological patterns for the understanding of the historical process. Although none of these patterns provides a satisfactory answer, the historian needs the concept of the epoch to create a perspective. Although epochs can not be defined and delimited, there are certain constants in the general flux of ideas which allow the historian to organize his material under common denominators.

F. Blankner publishes *The History of Scandinavian Literatures* (New York). The book is based on the work of Giovanni Bach and supplemented by contributions of R. Beck, A. B. Benson, and A. J. Uppvall. In addition to the strictly Scandinavian literatures, Finnish and Scandinavian American authors are considered.

#### THE THIRTEENTH TO THE EIGHTEENTH CENTURY

In an article on "Rudolf von Ems: Der gute Gerhard" (GR), L. W. Kahn points out those traits in the medieval story which characterize the rise of the bourgeois spirit and the secularization of religion.

A. Taylor prepares the way for further research in his book on *Problems in German Literature History of the Fifteenth and Sixteenth Centuries* (Modern Language Association, New York).

The late M. Sommerfeld surveys the studies on *The "Baroque" Epoch in German Literature* (Smith College

Studies in Modern Languages). He examines the relation between Baroque literature and the Counter-reformation and its ascetic maxime of humiliating the mind rather than killing the flesh. In this new ascetism he sees the origin of the typical Baroque idea that "life is nothing but a brief transitoriness from uncertainty to certainty in eternity." By a number of examples he illustrates the most significant changes in literary themes and characters which occurred during the transition from Renaissance to Baroque.

#### EIGHTEENTH CENTURY

W. W. Pusey writes on *Louis-Sebastien Mercier in Germany* (Columbia Univ. Press). After an introductory analysis of Mercier's work, he examines the French author's popularity in Germany during the last third of the eighteenth century. This popularity is measured by translations, presentations of his plays, and critical appraisals of his works in contemporary journals. A number of chapters are devoted to the influence of Mercier's dramatic theory, his novels and dramas on Wieland, Goethe, Schiller, the *Sturm und Drang*, and the German middle-class drama.

H. J. Meessen's "Goethe's Polaritätsidee und die Wahlverwandtschaften" (PMLA) establishes a close connection between Goethe's idea of polarity, which characterizes his speculation in natural philosophy on the one hand, and the symbols of chemical affinity and magic attraction on the other, which Goethe uses to elucidate the psychology of his characters.

In his book *Grillparzer, Lessing, and Goethe in the Perspective of German Literature* (Lancaster, Pa.), F. O. Nolte attempts to interpret the characters of the three authors against the background of European literature, especially by comparing them with English and French writers. After an analysis of the subjective character of modern German literature and thought, Nolte characterizes Grillparzer, Lessing, and Goethe as representatives of this subjectivity. He also stresses their introspective

and polemical tendencies. The final chapter on "Artistry" comes to the conclusion that art is of a pre-eminently social nature and that the concepts of genius and originality are literary delusions.

A. Bosselmann-Franzen's "Die Bedeutung des Taugenichts in Eichendorffs *Aus dem Leben eines Taugenichts*" (MfdU) interprets Eichendorff's story as a symbol of an artist's life. She sees in it the romantic polarity between the irrational world of imagination and the rational, utilitarian world of the bourgeoisie, although in this story Eichendorff presents a more positive relationship between the artist and his surroundings than in his other works.

#### NINETEENTH CENTURY

In an article on "Die Doppelstellung Herzog Albrechts in Hebbels *Agnes Bernauer*" (MfdU), H. M. Wolff sees in Albrecht's fight for his romantic ideas of love and individual rights and his later submission to *raison d'état* an inconsistency of composition rather than an attempt of the dramatist to arrive at a more positive evaluation of the conservative forces in history.

Karl Viëtor's book on *Georg Büchner als Politiker* (Paul Haupt, Bern) has just been announced and will be discussed in more detail in the next report.

E. H. Hemminghaus writes on *Mark Twain in Germany* (Columbia Univ. Press). He studies the German reading public's interest in Mark Twain and examines the attitude of German literary critics toward the American author. The study shows a growing prestige, especially between 1892 and 1904, a revival of interest in Mark Twain's work after the World War, and a gradual decline between 1926 and 1932.

In an article on "Theodor Fontane's Unheroic Heroes" (GR), R. Park shows that the characters of Fontane's novels yield to the pressure of conservative social forces, and that the novelist "delights to point out the human virtues of the old and the artistic value of convention." This conservatism, however, is to be at-

tributed less to an admiration of the past than to the pessimistic doubt in both of the moral strength and the conviction of men to carry out a desired revolution.

E. Jacobs' "Henrik Ibsen and the Doctrine of Self-Realization" (JEGP) correlates the enigmatic message of Ibsen's dramas with his philosophy of life. Ibsen's characters are humanly imperfect, but this imperfection is a result of their struggle for individuality in a society which tries to force them to accept its limited views and pattern of life. These pioneering spirits must perish in their attempt, but they must strive on for the development of society itself.

#### CONTEMPORARY LITERATURE

In an investigation on "Optimism in Naturalistic Weltanschauung" (GR) W. H. Root rejects the old assumption that the naturalistic movement was pessimistic. These naturalists themselves vigorously attacked social evils in the full confidence that they could be cured. As poets, rather than philosophers, they did not identify determinism with pessimism, since the evolutionary conception of life allows a belief in a betterment of human conditions.

In "Criticisms of Heredity as a Literary Motif with Special Reference to the Newspapers and Periodicals from 1880-1900" (GR), H. G. Carlson presents a survey of the criticism raised particularly against Ibsen's *Ghosts* and Hauptmann's early dramas from both the clinical and the esthetic point of view. The medical specialists found the naturalistic dramas more or less incorrect; literary critics questioned especially the possibility of a tragic effect with characters whose actions are determined by environment and heredity.

In his book *Der deutsche Dichter um die Jahrhundertwende und seine Abgelöstheit von der Gesellschaft* (Paul Haupt, Bern), H. W. Rosenhaupt finds the characters of the literary products written around 1900 in criticism of society and in self-criticism. This attitude is concomitant with a lack of roots or background, the loss of purpose and will,



the absence of any organic function in society as a whole. The typical milieu for these writers is an unreal world of dreams and restless wandering. Mind emancipates itself in expressionistic criticism and revolts against society and thereby returns to a more active interest in life.

F. A. Voigt's and W. A. Reichart's *Hauptmann und Shakespeare, Ein Beitrag zur Geschichte des Fortlebens Shakespeares in Deutschland* (Maruschke und Berendt, Breslau) is a study of Hauptmann's relation to Shakespeare in his early plans and dramatic sketches and in some of his later works. The greater part of the study is devoted to the writer's criticism of Hamlet and the influence of this particular drama on some of Hauptmann's later works. One chapter is devoted to a comparison of the two dramatists.

C. H. Owen examines Hauptmann's use of historical source material in *Treatment of History in Gerhart Hauptmann's Drama* (Ithaca, N.Y.).

H. Barnstorff writes on *Die soziale, politische und wirtschaftliche Zeitkritik im Werke Gerhart Hauptmanns* (Frommann, Jena). In a first part he examines the historical and geographical background, the milieu, the classes of society, and the various professions as they are found in Hauptmann's works. In a second part Barnstorff analyzes Hauptmann's attitude towards such social, political, and economic problems as the state, militarism, imperialism, the family, crime, school and church, and related problems. Hauptmann is portrayed as a defender of liberalism, socialism, pacifism and democracy—an attitude which one would hardly be inclined to attribute to the older Hauptmann.

In a study on "Hofmannsthals Begriff der konservativen Religion" (PLMA) D. W. Schumann follows the revolt against rationalization and mechanization, atomization, and eudemonistic emancipation on the one hand, and the attempt to save a heroic "conservative" responsibility for communal ideals on the other. In the last four decades of German literature he discovers a much greater

continuity than contemporary, ideologically biased literary historians would admit.

F. Genschmer's study "Thomas Mann: From Subjectivism to Realism" (MfdU) shows how Mann first opposed all things political as incompatible with German culture. Under the pressure of radical nationalistic forces Mann turned to democracy with the hope of preserving what is left of a cultural heritage, and finally he adopted a kind of idealistic collectivism as the only salvation for humanity from the fate of cultural nihilism. H. Slochower's publication, *Thomas Mann's Joseph Story* (New York) gives an aesthetic and political interpretation of Mann's novel.

Under the title *Das deutsche Drama 1880-1933* (Norton, New York), H. Steinhauer edits a number of plays illustrating the development of the German drama from naturalism to post-war realism. In a general introduction he surveys the dramatical development in its relation to changing philosophical, social, and political views, the advances in stagecraft, and the changes in the art of acting. In the introduction to the individual plays, he characterizes the ideas of the authors and the particular idea of the play concerned.

A. D. Klarman's study *Gottesidee und Erlösungsproblem beim jungen Werfel* (GR) follows the development of Werfel's neoplatonic world-view.

L. Baer examines the rôle of the Danish poet Jacobsen in the life and thought of Rainer Maria Rilke in an article, "Rilke and Jens Peter Jacobsen" (PLMA).

M. Sommerfeld publishes an anthology of poems by *George-Hofmannsthal-Rilke* (Norton, New York). In the introduction he characterizes the works of these poets on the background of the time and the development of their ideas. Copious notes serve the purpose of interpreting more difficult passages and of evaluating the esthetic merits of the selections. Rilke's mysticism is the subject of H. Weigand's article on "Wunder im Werk Rainer Maria Rilkes" (MfdU).



## ROMANCE LANGUAGES AND LITERATURES

BY ERNEST RICHARD MOORE

PROFESSOR, CORNELL UNIVERSITY

## GENERAL

The year 1939 brought new tribulations to scholars. Due to the nature of autocracies and to the needs of warring nations, literary production in Europe continued to diminish in value as well as in volume. Toward the end of the year difficulties in communicating with European countries further reduced incoming literature. In consequence American scholars have looked to their own resources in past foreign literature and have carried on research despite increasing isolation from the contemporary scene. In the Hispanic field attention has turned from Spain to Spanish America where literatures of unsuspected vigor and vastness are now being explored. Comparative Literature, which flourished during 1939, refuting the contention of the autocracies that blood and politics create distinctive national literatures, offered added proof that literatures are essentially interdependent because they deal with ideas, sentiments, and themes common to all civilized men. Some European writers aware of this fact have rejected the illusory attractions of war and have fought to maintain their freedom as citizens of the Republic of Letters. Of these not a few, having become strangers in a society they did not make, took refuge in the New World and have leavened it with great European literary traditions which they would not forsake.

## BIBLIOGRAPHIES

In addition to the supplement number of the *PMLA*,<sup>1</sup> which contains

<sup>1</sup> Abbreviations: *BA*, *Books Abroad*; *Col.*, Columbia University Press; *FR*, *French Review*; *Harv.*, Harvard University Press; *Hisp.*, *Hispania*; *HR*, *Hispanic Review*; *HTR*, *Harvard Theological Review*; *I. Esp.*, Instituto de las Españas; *Ital.*, *Italica*; *JHP*, Johns Hopkins University Press; *L*, Supplement to *Language*; *MLJ*, *Modern Language Journal*; *MLN*, *Modern Language Notes*; *MP*, *Modern Philology*; *Penn.*, University of Pennsylvania Press; *PMLA*, Publications of

the most complete list of articles and books in the Romance Language field written by American scholars, several valuable general bibliographies were published during the past year. The *Supplementhefte* of the *Zeitschrift für romanische Philologie* listed the world production of books and articles on Romance topics for the period 1927-1935; "Recent literature of the Renaissance" (*SP*), compiled under the direction of H. Craig, covered 1938 literature in French, Spanish, Italian, and other languages by American and foreign scholars; and a handy *Bibliographical Guide to the Romance Languages and Literatures* (Chandler's) by T. R. Palfrey, J. G. Fucilla, and W. C. Holbrook, should be a welcome addition to any scholar's reference shelf. Learned articles and doctor's degrees, completed or in progress, were listed in "Doctor's degrees in modern foreign languages" (*MLJ*) by H. G. Doyle and in *Works in Progress 1939*, published by Modern Humanities Research Assn.

French bibliographers include: D. F. Bond and others, "Anglo-French and Franco-American Studies" (*RR*); A. V. Roche, "Bibliographie des oeuvres de Régis Michaud" (*FR*); S. P. Jones, *List of French Prose Fiction from 1700-1750* (Wilson); *French Bibliography, 1937-1938* (Wilson); R. C. Williams, "Bibliography of the Seventeenth Century Novel in France" (*PMLA*); A. Schinz, "L'année littéraire mil neuf cent trente-huit" (*MLJ*).

Bibliographers were more active in Spanish. J. H. and D. K. Arjona published a *Bibliography of Textbooks of Spanish Published in the United States 1795-1939* (Edwards Bros.); the

the Modern Language Association of America; *PQ*, *Philological Quarterly*; *RFH*, *Revista de Filología Hispánica*; *RHM*, *Revista Hispánica Moderna*; *RR*, *Romanic Review*; *S. Speculum*; Smith, Smith College Studies in Modern Languages; *SP*, *Studies in Philology*; USC, University of Southern California Press; Yale, Yale University Press.

editors of the *Revista Hispánica Moderna* (I. Esp.) again gave the longest compilation of Hispanic critical items; H. Seris, in the same review, brought Menéndez Pidal's bibliography up to date; J. N. Lincoln outlined a "Guide to bibliographies of Spanish literature" (*Hisp*); and S. C. Rosenbaum began a continuous "Bibliografía de filología hispánica" (*RFH*).

Spanish American bibliography greatly increased: F. B. Luquiens, *Spanish American Literature in the Yale University Library* (Yale); R. L. Grismer, *A Reference Index to 12,000 Spanish American Authors* (Wilson); J. del Toro, *Bibliography of the Collective Biography of Spanish America* (Univ. Puerto Rico Press); and the excellent *Handbook of Latin American Studies* (Harvard), edited by Lewis Hanke.

For Portuguese, M. A. Cilley and A. F. G. Bell published a "Selective bibliography of Portuguese literature, 1922-1937" (*Hisp*). In the field of Italian: J. E. Shaw, "Bibliography of Italian studies in America" (*Ital*); and O. A. Bontempo, "Italian literature in 1938" (*MLJ*).

### LINGUISTICS

Two longer studies have been published by the Linguistic Society of America: *The Physiology of French Consonant Changes* by E. F. Haden, and *Words for Horse in French and Provençal* by G. M. Bolling. Other book length studies in French linguistics: *The French Preposition* (Lymanhouse) by M. I. Biencourt; *Some Romance Words of Arabic or Germanic Origin* (USC). Articles are: "Remarques sur quelques emplois de l'imparfait en français moderne" (Smith) by H. Cattañes; "Some observations on a modern colloquial use of *quoi*" (*MLJ*) by E. Breazelaie; "*A or batu*: a problem in lexicology" (*MLN*) by V. F. Koenig; "Old French *belluré*" (*MLN*) and "Old French *la* (*laa*): modern French *layette*" (*MLN*) both by C. H. Livingston; "Other early uses of *moyen âge* and *moyen temps*" (*RR*) by N. Edelman; "On the origin of French word order" (*RR*) by H. F. Muller; and three

articles by Leo Spitzer, "*Fermez donc votre porte*" (*RR*), "*Fr. console: It. consola*" and "*Florentin savia*," both in *Archivum Romanicum*; "The Turkish language in Pierre Loti's works" (*PQ*) by A. Kalfayan. L. W. Jones examined one source of the Caroline miniscule in "The script of Tours in the tenth century" (*S*).

The most important development in the Hispanic field has been the appearance of a new journal, *Revista de Filología Hispánica*, published by the Instituto de las Españas. Tomás Navarro Tomás, in the first number, wrote on "El grupo fónico como unidad melódica." Attention is called to several articles on *quejar*: "More about \**questiare*>*quezar*" (*HR*) by A. Castro; "Spanish *caja, quejar, quijada*" (*HR*) by G. G. Nicholson; "*Quezar*" (*HR*) by L. Poston. Other articles are: "Associative interference in New Mexican Spanish" (*HR*) by J. B. Rael; "Span., Port. *achaque, achacar* . . ." (*HR*) by H. B. Richardson; "La apócope de la-a final átona en español" (*HR*) by M. A. Zeitlin; "O. Sp. *reguncar*, to narrate" (*HR*) by L. Spitzer.

Students of Portuguese will be interested in R. Abraham's "Omission of the pronoun *o* with third singular weak preterits in Old Portuguese" (*HR*), and in two views presented by J. H. D. Allen and M. A. Pei respectively, "Portuguese and the problem of accusative versus oblique" (*RR*) and "Accusative versus oblique in Portuguese" (*RR*). J. E. Iannucci wrote on "The origin of Portuguese *lho* and *lhe*" (*HR*).

### MEDIEVAL FRENCH

H. J. Chaytor published his study on *Savaric de Mauléon, Baron and Troubadour* (Macmillan). G. Frank in "Historical elements in the *chansons de geste*" (*S*) concluded that no single theory of origins seems likely to account for the historical elements in the epic. Margaret Schlauch pointed out the prevalent use of the allegory about 1200 A.D. to unite religious and romantic themes in her article, "The allegory of church and synagogue" (*S*). Other articles: "The views of Ferdinand Lot on the origins

of the Old French epic" (SP) by E. Healy; "Carolingian heros and ballad lines in non-Carolingian dramatic literature" (HR) by E. H. Templin; "The Suchier fragment of the *Roman d'Alexandre*" (RR) by E. C. Armstrong; "Thirteenth-century culture as illustrated by Matthew Paris" (S) by M. H. Marshall; "Notes on *Perlesvaus*" (S) by M. Williams; "Were the *Vidas* and *Razos* recited?" by A. H. Schutz; "Notes sur Jean Renart" (MLN) by L.-A. Vigneras; "The Penrose MS of *La resurrection*" (MP) by J. M. Manly; "On the text of the Old French lives of St. Agnes" (MP) by W. Roach; "The Cambrai bestiary" (MP) published for the first time by E. B. Ham; "Une commentaire sur un vers de *Gautier d'Aupais*" (PMLA) by R. Levy.

#### FRENCH (1500-1800)

Three items deal with the sixteenth century: "*The Autobiography of Michel de Montaigne*" (Houghton Mifflin), edited and translated by M. Lowenthal; "*Le prétendu réalisme de Rabelais*" (MP) by L. Spitzer; and "Calvinist republicanism and its historical roots" (*Church History*) by H. Baron.

A long study on seventeenth century literature is J. V. Rice's *Gabriel Naudé* (JHP). Morris Bishop in "Did Pascal die a Jansenist?" (RR) concluded that "the strong presumption of Jansenism remains." Other articles: "The King's Minister in seventeenth-century French drama" (MLN) by M. Bandin; "Molière et le monologue tragique, d'après un passage de *l'Étourdi*" (PMLA) by J. Scherer; "Racine's *Bérénice*" (RR) by L. Lockert. N. A. Bennetton wrote a long treatise on the *Social Significance of the Duel in the Seventeenth Century French Drama* (JHP).

Several books appeared on eighteenth century questions: *Rôle of the Priest on the Parisian Stage During the French Revolution* (JHP) by K. N. McKee; *La Correspondance de Diderot, son Intérêt Documentaire, Psychologique et Littéraire* (Kingsley Press) by L. G. Krakeur; *The Fortunes of Victor Hugo in England* (Col) by K. W. Hooker; *Flaubert*

and *Madame Bovary* (Viking) by F. Steegmuller. Important articles: "La question de la langue française dans les querelles musicales au xviiième siècle" (Smith) by R. Guiet; "The *Esprit* of the *Esprit des lois*" (PMLA) by D. C. Cabeen; "Unedited Voltaire letters to Count di Polconigo" (MLN) by J. G. Fucilla; "New Voltaire-Gabriel Cramer letters" (RR) by F. J. Crowley; "La *Muse et Grace* de Voltaire" (PMLA) by J. de la Harpe; "Plutarch and Rousseau's first *Discours*" (PMLA) by A. C. Keller; "L'état présent des études rousseauistes" (RR) by A. Schinz; "Aspects of Diderot's esthetic theory" (RR) by L. G. Krakeur; "Diderot and the composition of Rousseau's first discourse" (RR) by G. R. Havens; "New facts relating to the biography of Jacques Cazotte" (MLN) by E. P. Shaw; "Exile's return" (RR) by O. Fellows deals with Victor Hugo; and W. F. Patterson's "Further notes on Pierre de Deimier" (SP) casts light upon a neglected Avignon poet.

#### FRENCH (1800-CONTEMPORARY)

The following books have appeared: *Romanticism in France* (PMLA) by N. H. Clement; *Chateaubriand, a Biography* (Macmillan) by Joan Evens; *The Rise of Integral Nationalism in France, with Special Reference to the Ideas and Activities of Charles Maurras* (Col) by W. C. Buthman; *The Pre-war Biographies of Romain Rolland and their Place in his Work and Period* (Oxford) by R. A. Wilson; and *The Spirit of French Canada* (Col) by I. F. Fraser. Among articles of interest are several on the theatre: "Théâtre contemporain, deuxième partie, tableau du mouvement en France de 1925 à 1938" (Smith) and "Les derniers épigones de Jacques Copeau: La Compagnie des Quinze et le Théâtre des Quatre Saisons" (Smith) both by L. Delphit; "Contemporary criticism of Emile Augier, 1845-70" (MP) by B. Weinberg. M. Gilman examined Baudelaire's acknowledged indebtedness to Stendhal for some of his critical principles in "Baudelaire and Stendhal" (PMLA). G. Shortliffe in "Populism in the novel before Naturalism"



(PMLA) portrayed Souvestre as a forerunner of Zola. Other articles were: "The literary criticism of Anatole France in *l'Univers Illustré* and other journals" (MP) by E. P. Dargan; "The source of *l'Ascension du Taft* by Anatole France (MP) by W. H. Boyers; "The source of Mallarmé's *L'après-midi d'un faune*" (MLJ) by G. N. Henning; "Pamphile Le May" (FR) by D. R. Janisse; "La puissance du rêve chez Julien Green" (PMLA) in which C. E. Koëlla stated that Green describes only what his imagination prescribes, what he sees in his dreams; "Quelques tendances générales de la littérature française contemporaine" (FR) by P. Brodin; and "Chats with Henri Fauconnier, Jacques Chardonne" (BA) by L. Tinkle.

# ITALIAN

Dante material is weighty. H. R. Patch asserts that "The last line of the *Commedia* (S) means 'Love' is 'God Himself.'" Other Dante articles: "Rafael Mai Amech Zabi Almi: *Inf.* xxxi, 67" (RR) by J. H. Sacret; "Dante notes" (RR) by H. D. Austin; "The throne of Emperor Henry in Dante's *Paradise* and the Medieval conception of Christian kinship" (HTR) by T. Silverstein; "Dante as a Medieval humanist" (*Thought*) by G. G. Walsh; "As one Dante translator to another" (BA) by J. B. Fletcher.

Petrarch is seen as an early prophet of national unity in "The date of Petrarch's canzone *Italia mia*" (S) by T. E. Mommsen, who dates this poem before 1347; the same poet's influence on Boccaccio is denied in "Alleged imitations of Petrarch in the *Filosofo*" (MP) by G. R. Silber; R. P. Oliver analyzes "Salutati's criticism of Petrarch" (*Ital*).

J. E. Shaw has written on "Cavalcanti's *Canzone d'amore* (*Ital*); O. H. Moore in "Was Masuccio influenced by Sermini?" (*Ital*) supports a denial; J. L. Lievsay studies pupil and master in "Stefano Guazzo and the *Emblemata* of Andrea Alciati" (PQ); and R. E. Young contributes an "Introduction to Castiglione and his courtier" (Smith). "A rhymed epistle

by Francesco Maria Trevisani" (*Ital*) was published for the first time by M. A. De Filippis. After a study of "De Sancti's criticism: its principles and method" (PMLA), J. Rossi concluded that he will occupy the same position in relation to Manzoni and Leopardi in their century that Vico has does in the century of Alfieri and Goldoni. W. Rooke wrote about the "Parco di Velo, a hundred years of literature in an Italian garden" (Smith). Other outstanding studies were: *Alesso Baldovinetti* (Yale) by R. W. Kennedy; "Grazia Deledda ed i suoi primi contatti letterari" (*Ital*) by D. Vittorini; "Remarks on some recent lyrics" (*Ital*) by T. G. Bergin; *Italian Authors of Today* (S. F. Vanni) by P. M. Riccio.

# SPANISH

Several articles were published on the early period: R. L. Wolff wrote on "Barlaam and Ioasaph" (HTR); J. H. Nunemaker in "The sources of the Alfonsoian Lapidaries" (S) examined the first one in detail; M. Zapata y Torres, "Algo sobre el *Libro del consejo e los consejeros* y sus fuentes" (Smith); L. Carreaga reported the discovery of the tomb of Rojas in "Investigaciones referentes a Fernando de Rojas en Talavera de la Reina" (RHM); much light was shed on "The 'Coronación' of Juan de Mena: poem and commentary" (HR) by I. Macdonald. R. Shevill contributed "Erasmus and Spain" (HR) and J. P. W. Crawford, who died in 1939, studied "Francisco de Aldana, a neglected poet of the Golden Age in Spain" (HR).

Drama attracted a great many scholars. L. L. Barrett treated the Sevillian and the Valencian schools, respectively, in "The supernatural in Juan de la Cueva's drama" (SP) and in "The omen in Guillén de Castro's drama" (Hisp). E. B. Place in "Notes on the grotesque: the *comedia de figurón* at home and abroad" (PMLA) traced the development and the influence of the cowardly lover type in Spanish drama and in seventeenth century French comedy. A needed critical edition of *Agustín de Rojas' 'El natural desdichado'* (I. Esp.) was



published by J. W. Crowel. Several important studies on Lope de Vega appeared during the year: *Lope de Vega's 'El palacio confuso' together with a study of the Menaechmi theme in Spanish literature* (I. Esp.) by C. H. Stevens; "La introducción del gracioso en el teatro de Lope de Vega" (*HR*) by J. H. Arjona; "Is *El mayor prodigio* by Lope de Vega?" (*RR*) by W. L. Fichter, who offers evidence against the attribution. Lope's rival also attracted scholars: A. H. Bushee writing an outstanding study in *Three centuries of Tirso de Molina* (Penn); F. C. Hayes wrote on "The use of proverbs as titles and motives in the 'Siglo de Oro' drama: Tirso de Molina" (*HR*). R. L. Kennedy, who cast doubt upon the authenticity of two plays ascribed to Agustín Moreto in "*Sin honra no hay valentía*" (Smith) and in "*La gala del nadar—date and authorship*" (*MLN*), also wrote other "Moretiana" (*HR*).

D. C. Clarke contended that poets use and critics abuse "*Agudos and esdrújulos* in italianate verse in the Golden Age" (*PMLA*). J. De Boer wrote an important study on *Mallorcan Moods in Contemporary Art and Literature* (Bayard). Other articles were: "Huellas islámicas en el carácter español" (*HR*) by A. González Palencia; "Was José de Espronceda an innovator in metrics?" (*PQ*) by J. A. Dreps; "La mujer en la novela de Concha Espina" (*Hisp*) by J. Cano.

R. A. Abraham contributed a paleogeographical and linguistic edition of *A Portuguese version of the life of Barlaam and Josaphat* (Penn).

#### SPANISH AMERICAN LITERATURE

Scholarship has greatly increased in this field, as the appearance of the new publication *Revista Iberoamericana* indicated. In this review are to be found the following articles: "Crítica y estilo literarios en Eugenio María de Hostos" by J. A. Balseiro; "La locura de Horacio Quiroga" by J. A. Crow; "Carlos Reyes" and "Tres poetas mexicanos" both by A. Torres-Ríoisco. The latter also wrote a first survey of *La Novela en la*

*América Hispana* (Univ. Calif.) and edited an *Antología de la Literatura Hispanoamericana* (Crofts). E. K. Mapes continued to edit the scattered works of Manuel Gutiérrez Nájera (*RHM*), and J. R. Spell in "Mexican literary periodicals of the twentieth century" (*PMLA*) supplemented his excellent list for the previous century. Other articles on Mexico were: "The Mexican periodicals of José María Heredia" (*Hisp*) by J. R. Spell; "Apuntes sobre algunos escritores mexicanos contemporáneos" (*RHM*); "The realism of Mauricio Magdaleno" (*Hisp*) by R. Stanton; "The oldest American book" (*Hisp*) by D. Penn. E. Neale-Silva proved that Rivera's famous novel is largely a skillful combination of historical fact and personal experience in "The factual bases of *La vorágine*" (*PMLA*). A few additional articles in this field were: "Albas de Xavier Abril" (*RHM*) by C. Meléndez; "Angélica Palma y Román" (*Hisp*) by V. A. Warren; "El ensayo de Hostos sobre Plácido" (*Hisp*) by G. Rivera; "La realidad americana en la novela hispanoamericana" (*Hisp*) by A. B. Franklin; and "Armando Mook—forgotten Chilean dramatist" (*Hisp*) by W. K. Jones.

#### COMPARATIVE LITERATURE

The most important journal in this field of growing importance is the *Révue de Littérature Comparée* (Paris) to which many American scholars contribute articles. The outstanding general study is C. S. Baldwin's *Renaissance Literary Theory and Practice; Classicism in the Rhetoric and Poetic of Italy, France, and English, 1400-1600* (Col).

On the French-Spanish influence were: "Two Spanish imitations of *Maître Patelin*" (*RR*) by A. Hamilton; "The influence of Pierre Bayle on Feijóo" (*Hisp*) by C. N. Staubach; "The campaign to substitute French neo-classical tragedy for the *comedia*, 1737-1800" (*PMLA*) by C. B. Qualia; in "Racine's tragic art in Spain in the eighteenth century" (*PMLA*) the same writer explains the failure to influence and the reason for the numerous translations; *Rousseau in the*

## LATIN LITERATURE

*Spanish world before 1833* (Univ. Texas) by J. R. Spell; "*Hernani ou l'honneur castillan*" (Smith) by V. Guilton who concludes that the influence is small; "Auguste Comte y *Marianela*" (Smith) by J. Casaldueiro who finds that Galdós was inspired by certain ideas of Comte's; "Galdós' *Electra* in Paris" (*Hisp*) by H. C. Berkowitz; "Maurice Barrès and Spain" (*RR*) by R. Hilton.

Others of French influence were: *German Criticism of Gustave Flaubert, 1857-1930* (Col) by E. E. P. Freienmuth von Helnos; *Revivals and Importations of French Comedies in England, 1749-1800* (Col) by W. A. Kinne; "Chaucer's prologue to the *Legend of good women* and Marchaut's *Le jugement dou Roy de Navarre*" (*SP*) by R. M. Estrich; "Marie de France and Arthur O'Shaughnessy: a study in Victorian adaptation" (*SP*) by G. K. Anderson; "Rousseau's second *Discours* in England and Scotland from 1762-1772" (*PQ*) by R. B. Sewall; "The Cowper translation of Mme Guyon's poems" (*PMLA*) by D. L. Gilbert and R. Pope.

Others of Spanish influence were:

"Transmisión y recreación de temas grecolatinos en la poesía lírica española" (*RFH*) by M. R. Lido; Mabbe's paganization of the *Celestina* (*PMLA*) by H. P. Houck; "Spanish drama on the American stage" (*Hisp*) by F. Nicholson; "Ensayo de una bibliografía neerlandesa de las obras de Francisco de Quevedo" (*HR*) and "Traducciones neerlandesas de las obras de Baltasar Gracián" (*HR*) both by J. A. Van Praag; "Of men and angels" (Smith) by C. B. Bourland gave a parallel conception in *Hamlet* and in *Las paredes oyen*; "The influence of Góngora on Mexican literature during the seventeenth century" (*HR*) by D. Schons; "Reminiscences of Góngora in the works of Sor Juana Inés de la Cruz" (*PMLA*) by E. J. Gates.

Of the Italian influence were: "Three sonnets of the Sun" (*MP*) by R. V. Merrill, showing that the Petrarchian image "the lady as sun" was used by Pontus Tyard, Maurice Scève, and Louise Labé; "Numerical symbolism in Dante and the *Pearl*" (*MLN*) by C. O. Chapman; "Bryant's knowledge of Dante" (*Ital*) by J. C. Matthews.

## LATIN LITERATURE

BY JOHN W. SPAETH, JR.

PROFESSOR, WESLEYAN UNIVERSITY

### LOEB CLASSICAL LIBRARY

Additions made in 1939 to this growing series include the following: *Ammianus Marcellinus*, vol. 3, by J. C. Rolfe; *Cicero, Pro Sestio, In Vatinius, Pro Caelio, De Provinciis Consularibus, Pro Balbo*, by J. H. Freese; *Cicero, Brutus and Orator*, by G. L. Hendrickson and H. M. Hubbell; *Livy*, vol. 6, by F. G. Moore; *Pliny, Natural History*, vol. 2, by H. Rackham.

### CLASSICAL LATIN AUTHORS \*

In an illuminating essay entitled "Plautus and Popular Drama" (*H.S. C.P.* 49, 205 ff.) A. M. G. Little emphasizes the native heritage in Plautus' work to show how the Roman

playwright often put aside the Greek ideals and "chose a more popular handling for a rougher audience." J. N. Hough (*A.J.P.* 60, 422 ff.), by an investigation of the relative amount of external aid given in the Plautine comedies to the audience's understanding of intrigue, arrives at a chronological arrangement of the plays that "is in essential agreement with earlier

\* Periodicals are abbreviated as follows: *A.J.A.*, *American Journal of Archaeology*; *A.J.P.*, *American Journal of Philology*; *C.B.*, *Classical Bulletin*; *C.J.*, *Classical Journal*; *C.O.*, *Classical Outlook*; *C.P.*, *Classical Philology*; *C.W.*, *Classical Weekly*; *H.S.C.P.*, *Harvard Studies in Classical Philology*; *Spec.*, *Speculum*; *T.A.P.A.*, *Transactions of the American Philological Association*; *P.A.P.A.*, *Proceedings of the same*; *Y.C.S.*, *Yale Classical Studies*.

studies of chronology" based on different criteria. In *C.P.* 34, 245 ff. G. E. Duckworth studies the use of cretics in the first scene of the *Epidicus*. A *Study of the Fragments of Three Related Plays of Accius* (Scottsdale, Pa., 1939) constitutes a Columbia dissertation by C. B. Earp.

Lucretius is the subject of two new monographs, Rosamund E. Deutsch's *The Pattern of Sound in Lucretius* (Bryn Mawr dissertation, 1939) and S. D. Hoslett's *Lucretius: His Genius and His Moral Philosophy* (Kansas City, Kansas, 1939). In *A.J.P.* 60, 238 ff. Annie L. Broughton contributes three miscellaneous "Notes on Lucretius." H. Comfort (*P.A.P.A.* 69, xxxiii) analyzes briefly the poetic technique in Catullus' forty-fifth poem. P. R. Coleman-Norton provides two useful summaries of Ciceronian material: a brief analysis of the nature and number of Cicero's orations (*C.B.* 15, 53 f.) and a survey of the fragmentary philosophical treatises (*C.J.* 34, 213 ff.). Mary N. P. Packer's dissertation, *Cicero's Presentation of Epicurean Ethics* (Columbia Univ., 1938), is "a study based primarily on *De Finibus* I and II." In *A.J.P.* 60, 307 ff. R. E. Jones examines the accuracy of Cicero's characterization in six of his dialogues. F. Solmsen (*T.A.P.A.* 69, 542 ff.) undertakes a rhetorical analysis of some of Cicero's first speeches, with special attention to the *Pro Sexto Roscio Amerino*. "Cicero's Speed of Delivery" (*C. B.* 15, 50 f.) is a brief essay by W. H. Alexander. In *C.P.* 34, 251 f. W. A. Laidlaw discusses the varied use of the formula *S.V.B.E.* in Cicero's correspondence. The *Index Verborum Ciceronis Epistularum* (Univ. of Illinois Press, 1938), edited by W. A. Oldfather, H. V. Canter, and K. M. Abbott, is an elaborate and valuable philological aid. In *C.J.* 34, 449 ff. Josephine H. Ross emphasizes Caesar's recognition of the courage and worth of his Gallic enemies, and Lieut.-Col. Donald Armstrong's essay, "Caesar's Art of War" (*C.W.* 32, 291 ff.), concerns itself with the campaign of 52 B.C. against Vercingetorix.

E. T. Salmon (*C.P.* 34, 66 ff.) finds

reason once more to identify the *puer* of Vergil's fourth *Eclogue* with the expected child of Octavian and Scribonia. J. M. Bridgham (*C.J.* 34, 360 f.) contends that the Belus mentioned in *Aeneid* I, 729 f., as in I, 621, is the father of Dido. In an article in *Les Études Classiques* (7, 168 ff.) R. Mandra identifies the "Island of the Sirens" of *Aeneid* 5, 864 ff. with Ustica (Osteodes), and in a subsequent article, "Method in the Exegesis of the *Aeneid*" (*ibid.* 8, 15 ff.), he considers the bearing of geography and weather upon the action of *Aeneid* 5 and 6. In *C.B.* 16, 6 ff. Sister Hildegard Marie offers a thoughtful study of another vexed Vergilian problem, the "Gates of Sleep" of *Aeneid* 6, 893 ff. W. E. Gillespie (*C.J.* 35, 106 ff.) maintains that not one but several historical persons are the subject of *Catalepton* 3. In *Vergilius* 3, 33 f. G. E. Duckworth furnishes a bibliographical survey of recent work on Vergil. "Horace and the Theory of Imitation" (*A.J.P.* 60, 288 ff.) is a well-reasoned study by C. La Drière who holds that for Horace "the primary requisite of poetry was not *imitatio* but *incitatio*." In *C.P.* 34, 127 ff. N. W. De Witt arranges passages of Horace under Epicurean captions to illustrate the poet's use of Epicurean doctrine. B. Otis' essay, "Ovid and the Augustans" (*T.A.P.A.* 69, 188 ff.), explains in detail developments in Ovid's poetic style. R. J. Deferrari, Sister M. Inviolata Barry, and M. R. McGuire have edited a valuable *Concordance of Ovid* (Catholic Univ. of America, Washington, 1939). J. L. Catterall (*T.A.P.A.* 69, 292 ff.) has made a study of "variety and inconcinnity of language in the First Decade of Livy."

"Basic rhetorical theories of the Elder Seneca" are discussed by A. F. Sochatoff in *C.J.* 34, 345 ff. Senecan tragedy is subjected anew to literary criticism in the doctoral dissertation of N. T. Pratt, Jr., *Dramatic Suspense in Seneca and in His Greek Precursors* (Princeton, 1939) and in M. Hadas' article, "The Roman Stamp on Seneca's Tragedies" (*A.J.P.* 60, 220 ff.). W. H. Alexander (*ibid.*, 470 ff.) proposes emendations to three passages



(20, 11; 91, 3; 114, 2) in Seneca's *Epistulae*. In *P.A.P.A.* 69, xlii f. W. C. Korfmacher considers it "highly probable that Persius did assail Nero in his verses." By upholding the vulgate reading *lucida veste* in Pliny, *Nat. Hist.* 35, 58, Lillian B. Lawler (*T.A.P.A.* 69, 423 ff.) insists that an accepted tradition about the technique of the painter Polygnotus must be revised. M. Hammond (*H.S.C.P.* 49, 115 ff.) discusses "Pliny the Younger's views on government." N. D. Young has edited an *Index Verborum* of Silius Italicus (Univ. of Iowa, 1939). An article by Donnis Martin (*C.J.* 34, 461 ff.) considers "similarities between the *Silvae* of Statius and the *Epigrams* of Martial."

C. C. Mierow (*C.P.* 34, 36 ff.) contends that Tacitus is more biographer than annalist, even in the historical works. The phrase *labi spiritum* of *Annales* 6,50,4 is interpreted by W. A. Oldfather (*ibid.*, 146 f.) in the light of a sentence in the *Corpus Hermeticum* 10, 13. J. D. Jefferis (*C.J.* 34, 229 ff.) examines Juvenal's expressed opinions on religious matters. In *A.J.P.* 60, 301 ff. H. L. Levy explains the unwarranted presence of the word *gnomicam* in Aulus Gellius 1, 9, 6. R. A. Pack's pleasing essay, "Adventures of a Dilettante in a Provincial Family" (*C.J.* 35, 67 ff.), is concerned with the contents of Apuleius' *Apologia*.

#### LATE LATIN LITERATURE, INCLUDING MEDIEVAL

Adelaide D. Simpson's *M. Minucii Felicis Octavius: Prologomena, Text and Critical Notes* (New York, 1938) and Edith O. Wallace's *The Notes on Philosophy in the Commentary of Servius on the Eclogues, the Georgics, and the Aeneid of Vergil* (New York, 1938) are both Columbia dissertations. G. D. Hadzsits (*P.A.P.A.* 69, li f.) summarizes a detailed study of Servius' treatment of Epicureanism and Lucretius. E. T. Silk (*Harvard Theological Review* 32, 19 ff.) sees in Boethius' *Consolatio Philosophiae* a possibly conscious sequel to Augustine's *Dialogues* and *Soliloquia*. Isabelle Johnson has published as her doctoral dissertation *Index Criticus Verborum Daretis Phrygii* (Nashville,

Tenn., 1938). C. W. Jones' *Beda's Pseudepigrapha* (Cornell Univ. Press, 1939) is a discussion of the origins of scientific writings falsely attributed to the Venerable Bede. In *T.A.P.A.* 69, 446 ff. Ruth E. Messenger discusses "the literary and liturgical background of the Ninth Century cycle of Latin hymns used in monastic worship."

*Hugonis de Sancto Victore Didascalicon de Studio Legendi* (Washington, D.C., 1939), edited by C. H. Buttmer, offers a new critical text. Under the sprightly title of *Frivolities of Courtiers and Footprints of Philosophers* (Univ. of Minnesota Press, 1938) there is the late J. B. Pike's translation of selections from the *Policraticus* of John of Salisbury. In *Spec.* 14, 465 ff. Miriam H. Marshall contributes a study of Matthew Paris' *Chronica Majora* as a medium of discovering the range of cultural interests among the literary of the 13th century. L. K. Born (*T.A.P.A.* 69, 259 ff.) gives an evaluation of the major grammatical works of John of Garland—the *Compendium Grammaticae*, *Clavis Compendii*, and *Ars Lectoria Ecclesiae*. A new edition of the *De Eruditione Filiorum Nobilium* of Vincent of Beauvais (Cambridge, Mass., 1939) has been prepared by A. Steiner. Florence A. Gragg has published *The Commentaries of Pius II, Translated* (Northampton, Mass., 1938). In *Studies in Philology* 36, 405 ff. D. C. Allen supplies a bibliography of recent works on Neo-Latin literature of the Renaissance.

#### LITERARY HISTORY AND CRITICISM

Margarete Bieber's *History of the Greek and Roman Theatre* (Princeton Univ. Press, 1939), copiously illustrated, is an important contribution to the study of ancient drama. D. E. Fields has produced *The Technique of Exposition in Roman Comedy* (Chicago, 1938) and H. W. Prescott two studies (*C.P.* 34, 1 ff. and 116 ff.) on the functional use of "link," or transitional, monologues in Roman comedy. In *A.J.P.* 60, 401 ff. G. I. Hendrickson identifies the "letter from Asia" mentioned by Atticus in



Cicero's *Brutus* 3, 11 with Brutus' lost philosophical treatise *De Virtute*. W. Allen, Jr. (*C.J.* 35, 134 ff.) locates Cicero's Palatine house between the Nova Via and the Clivus Victoriae, and the same writer, in collaboration with P. H. De Lacy, continues his studies of literary patronage in "The Patrons of Philodemus" (*C.P.* 34, 59 ff.). H. V. Canter contributes a second article on "Praise of Italy in Classical Authors" (*C.J.* 34, 396 ff.). In a short essay in *C.O.* 16, 33 f. T. H. Briggs concludes that probably the phrase *pollex versus* meant "the thumb extended downward" and implied condemnation.

J. W. Thompson's *The Medieval Library* (Univ. of Chicago Press, 1939) narrates the history of manuscript books and libraries for 15 centuries before the invention of printing. Literary influence is the theme of J. A. S. McPeck's *Catullus in Strange and Distant Britain* (Harvard Univ. Press, 1939). An essay by A. M. Zamiatina (*C.B.* 16, 9 f.) describes the important place held by Cicero's work in the Jesuit *Ratio Studiorum*.

#### TEXT-HISTORY

*The Major Manuscripts of Cicero's De Senectute* (Chicago, 1939) is a dissertation by Grace S. Vogel. In *H.S.C.P.* 50, 95 ff. R. T. Bruère discusses in detail the manuscript tradition of Ovid's *Metamorphoses*. C. W. Mendell (*Y.C.S.* 6, 41 ff.) studies the 29 known manuscripts of Tacitus XI-XXI and their affiliations, and W. Allen, Jr. (*ibid.*, 31 ff.) considers the instructive case of textual inversion in *Histories* 4, 46-53. A. P. McKinlay and E. K. Rand describe at some length (*H.S.C.P.* 49, 229 ff.) an important textual fragment of Juvenal (2, 32-89 and 3, 35-93) found on the covers of an Orleans manuscript. L. W. Jones (*Spec.* 14, 179 ff.) discusses specimens of the Caroline minuscule written in the tenth century.

#### LANGUAGE, GRAMMAR, AND PROSODY

*The Vocabulary of Mental Aberration in Roman Comedy and Petronius* (Baltimore, 1939) is a linguistic

dissertation by the late Dorothy Pascall. In *C.P.* 34, 220 ff. W. Petersen studies the origin of the Latin perfect forms in *-isti* and *-istis*, and in *T.A.* P.A. 69, 389 ff. J. F. Gummere explains the short imperative forms *dic*, *duc*, and *fac* as caused originally by syncope.

F. W. Shipley's article, "Problems of the Latin Hexameter" (*T.A.P.A.* 69, 134 ff.) is a notable study that argues cogently for a radical revision of the rules now generally held to govern the Latin dactylic hexameter verse. Aspects of this same problem are approached in the brief discussions of E. Kapp, "Bentley's Schediasma 'De Metris Terentianis' and the modern doctrine of Ictus in classical verse" (*P.A.P.A.* 69, xxxix f.), and H. W. Magoun, "The Prosody Problem" (*ibid.*, xlv).

#### EPIGRAPHY AND NUMISMATICS

Helen H. Tanzer's book, *The Common People of Pompeii* (Baltimore, 1939), is a comprehensive study of the graffiti. A *paraclausithyron* from Pompeii, contained in *C.I.L.* IV (Suppl. 5296), is discussed at length by F. O. Copley (*A.J.P.* 60, 333 ff.). J. Whatmough (*H.S.C.P.* 50, 89 ff.) describes a newly found Umbrian inscription from Assisi, and A. S. Pease (*ibid.*, 85 ff.) publishes five Latin inscriptions now in the Virgin Islands. By restoring a passage in the papyrus *feriale Duranum*, R. O. Fink (*A.J.P.* 60, 326 ff.) is able to establish the name of Severus Alexander's father-in-law as Lucius Seius. In *T.A.P.A.* 69, 104 ff. H. A. Sanders publishes part of a Latin marriage contract preserved in three papyrus fragments. *Coins from Jerash, 1928-1934* (American Numismatic Society, New York, 1938) is a monograph by A. R. Bellinger.

#### POLITICAL, SOCIAL, AND ECONOMIC HISTORY

H. Hill (*A.J.P.* 60, 357 ff.) believes that the separate *census equester* was instituted between the late third century and the time of Cicero. M. E. Agnew (*ibid.*, 214 ff.) finds in a fragment of the elder Cato the earliest direct evidence for the practice of num-

bering the Roman legions. In *T.A.P.A.* 69, 381 ff. R. M. Geer upholds the ancient tradition that speaks of hostility between Sempronius, father of the Gracchi, and the Scippios, and in *A.J.P.* 60, 466 f. he proposes to emend the name of the new augur in Livy 41, 21, 9 to Ti. Sempronius Gracchus Veterianus. Lily R. Taylor (*ibid.*, 194 ff.) maintains that Cicero in 70 B.C. was plebeian, not curule, aedile. F. L. Jones (*C.J.* 34, 410 ff.) discusses the so-called "First Conspiracy of Catiline"; Adelaide D. Simpson (*T.A.P.A.* 69, 532 ff.) examines critically the accounts of Crassus' departure for Parthia in 55 B.C.; and E. T. Salmon (*C.J.* 34, 388 ff.) investigates again the nature of Cicero's claim to the consulship of 49 B.C. Max Radin has produced a biography of *Marcus Brutus* (Oxford University Press, 1939). M. M. Westington's dissertation is entitled *Atrocities in Roman Warfare to 133 B.C.* (Chicago, 1938), and J. W. Heaton has published *Mob Violence in the Late Roman Republic, 133-49 B.C.* (Univ. of Illinois Press, 1939). C. Shaw's *Etruscan Perugia* (Baltimore, 1939) is an account of the ancient town down to its destruction in 40 B.C.

D. B. King (*P.A.P.A.* 69, xl f.) finds in the Greek version of the *Res Gestae* of Augustus a different imperial attitude from that of the Latin version. K. Scott (*A.J.P.* 60, 459 ff.) makes observations on the destruction, by imperial command, of two Roman villas in the early empire. In *P.A.P.A.* 69, xlix W. R. Tongue defends 3 B.C. as the date of birth of the Emperor Galba. R. M. Geer (*C.O.* 17, 28 f.) discusses briefly some aspects of "the Nero Legend." In *C.J.* 35, 17 ff. J. N. Hough draws upon Pliny's correspondence with Trajan for examples of inefficiencies in Roman provincial administration, and in *H.S.C.P.* 49, 141 ff. P. J. Alexander assembles and discusses the more important letters and speeches of the Emperor Hadrian. P. W. Townsend (*A.J.A.* 42, 512 ff.) explains "the significance of the Arch of the Severi at Lepeis." T. B. Jones (*C.P.* 34, 366 ff.) contributes three notes on the brief reign of the Emperor Tacitus:

L. C. West (*ibid.*, 239 ff.) furnishes some notes on Diocletian's *Edict*; and C. Pharr (*C.O.* 16, 57 f.) writes on "Constantine and the Christians." An article, "Fasti Consulares" (*A.J.A.* 43, 278 ff.), by G. A. Harter and A. I. Suskin, is a supplement to W. Liebenam's work (1909). In *Y.C.S.* 6, 73 ff. H. T. Howell contributes a thorough-going study of the privileges contained in the *honesta missio* awarded to soldiers of the Roman imperial *numeri*. M. Rostovtzeff has summarized the results of archaeological investigation in *Dura-Europos and Its Art* (Oxford Univ. Press, 1938).

H. J. Haskell's *The New Deal in Old Rome* (Knopf, New York, 1939) is a lively account of "how government in the ancient world tried to deal with modern problems." In *A.J.P.* 60, 363 ff. M. Rostovtzeff reviews and annotates at length volume 4 of *An Economic Survey of Ancient Rome*, edited by T. Frank. W. Salant, in *Scientific Monthly* 47, 525 ff., discusses the Roman attitude toward science, and C. Pharr, in *C.J.* 34, 257 ff., writes on Roman legal education. In an interesting article, "Roman Dinners and Diners" (*ibid.* 35, 86 ff.), Winnie D. Lowrance tests two generally accepted traditions, that concerning the Roman's silver saltcellar, and the Horatian generalization *ab ovo ad mala*.

#### RELIGION

Elizabeth C. Evans has published a monograph on *The Cults of the Sabine Territory* (American Academy in Rome, 1939). In *T.A.P.A.* 69, 161 ff. Aline A. Boyce discusses "the development of the *Decemviri Sacris Faciundis*." L. D. Johnston derives several of our Christmas customs from the Roman *Kalendae Ianuariae* (*C.O.* 17, 25 ff.) and, in particular, argues that the rites of the Yule, or Kalends, log of modern times are descended from ancient elements in the worship of the Lares (*C.P.* 34, 342 ff.). N. J. De Witt (*T.A.P.A.* 69, 319 ff.) explains the decline of Druidism in the time of Caesar. In *C.P.* 34, 255 ff. J. Whatmough provides an extended review of Franz

Altheim's *History of Roman Religion* (Dutton, 1938).

#### GENERAL AND MISCELLANEOUS

Gertrude M. Hirst's *Collected Classical Papers* has been published by Blackwell (Oxford, 1938). *The Ancient Classics and the New Humanism* (Oxford Univ. Press, 1938) is the title of an essay by E. K. Rand. In *C.J.* 35, 92 ff. C. F. Mullett gives an interesting account of the use made of classical authors and classical references by the American colonists at the time of the Revolution. A. W. Van Buren's "News Items from Rome" (*A.J.A.* 43, 508 ff.) is a survey of recent progress in Roman archaeology. In *T.A.P.A.* 69, 392 ff. W. W.

Hyde describes an inscribed water-organ (*hydraulis*) recently discovered at Budapest.

Bibliographical information is furnished by a list of doctoral dissertations on classical subjects, for the year 1938 (*C.W.* 32, 219 ff.), by the frequent "Abstracts of Articles" in *C.W.*, and by the occasional lists of "Classical Articles in Non-Classical Periodicals" in *C.J.* (34, 381 ff.; 509 ff.; 35, 59 ff., 185 ff.). Mention should be made of the organization three years ago of the Vergilian Society and of its publication, *Vergilius*, now in its third volume. G. D. Hadzsits has become editor of *T.A.P.A.* and *P.A.P.A.* in place of L. A. Post.

### GREEK LITERATURE

By WILLIAM STUART MESSER

PROFESSOR, DARTMOUTH COLLEGE

#### LOEB CLASSICAL LIBRARY

The following volumes have been published since the last report: *Aristotle, On the Heavens*, W. K. C. Guthrie; *Demosthenes, Private Orations* (vol. 2), A. T. Murray; *Dio Chrysostom* (vol. 2), J. W. Cohoon; *Diodorus Siculus* (vol. 3), C. H. Oldfather; *Dionysius of Halicarnassus, The Roman Antiquities* (vol. 2), E. Cary; *History of Greek Mathematics* (vol. 1), I. Thomas; *Philo* (vol. 8), F. H. Colson; and *Plutarch, Moralia* (vol. 6), W. C. Helmbold. Announced for early publication are the following: *Athenaeus, The Deipnosophists* (vol. 7), C. B. Gulick; *Demosthenes, Private Orations* (vol. 3), A. T. Murray; *Nonnos* (vols. 1-2), W. H. D. Rouse; and *Procopius* (vol. 7), H. B. Dewing.\*

\* Abbreviations: *AJA*, *American Journal of Archaeology*; *AJP*, *American Journal of Philology*; *CJ*, *Classical Journal*; *CP*, *Classical Philology*; *CW*, *Classical Weekly*; *HSCP*, *Harvard Studies in Classical Philology*; *TAPA*, *PAPA*, *Transactions, Proceedings of the American Philological Association*. Titles of books, monographs, and periodicals are italicized; those of articles are in quotation marks.

#### LANGUAGE, LITERATURE, AND LITERARY CRITICISM

There was a noticeable dearth of Homeric studies in 1939, and no articles of outstanding importance. In "Homer's Gods—Myth and Märchen" (*AJP* 60,1), G. M. Calhoun explains the vacillation between the noble and the ignoble in divine epic action on the assumption that Homer and his audience conceived the gods, on the one hand, as supreme powers, majestic in their sublimity; but they knew them also as figures in ancient semi-savage story, ridiculous or revolting, in whose deeds they equally delighted. The analogies between Homer and the Southslavic oral epic are again considered by A. B. Lord in "Homer and Huso II: Narrative Inconsistencies in Homer and Oral Poetry" (*TAPA* 69,439). W. Peterson, in *CJ* 35,1, "Divinities and Divine Intervention in the Iliad," discusses and explains the difference in the attitude of the gods in the *Menis* and in its expansions. In *TAPA* 69, 245, H. V. Apfel considers in chronological order the opinions of the chief Homeric critics of the fourth century.



On the basis of a vocabulary study (CP 34,209) H. G. Robertson points out the large extent to which Aeschylus used his plots for the consideration of problems of law and justice. P. C. Wilson in "The Pathei Matos of Achilles" (TAPA 69,557) maintains that Aeschylus in Agamemnon 173-181 epitomizes, consciously or unconsciously, the experience of the hero of the *Iliad*. An attack upon the automatic application of objective stylostistics, such as of antilabe and resolution, in determining the date of Sophocles' plays is forcefully delivered by H. D. F. Kitto in *AJP* 60, 178. D. Greene (CP 34,45) suggests an interpretation of the Hippolytus of Euripides widely at variance with the traditional view that it is a symbolic conflict between chastity and desire. S. M. Pitcher (*AJP* 60,145) conjecturally reconstructs the plot of the Anthus of Agathon, probably surviving in a story of the second century A.D., Antoninus Liberalis, as a sort of satyr play with an equine chorus and telling an invented Anthus tale. R. A. Pack defends the existence of the "tragedy of fate" in "Fate, Chance, and Tragic Error" (*AJP* 60, 350). *Incongruity in Aristophanes* is the title of a dissertation by C. C. Jernigan (Banta, Menasha, Wis., 1939). L. A. Post assesses the place in dramatic theory of New Comedy and of Menander as the comic poet of the feelings (TAPA 69.1); in "Dramatic Infants in Greek" (CP 34,193) he points out that the baby may be a necessary and moral factor in the marriage of two lovers.

R. Lattimore notices in Herodotus the employment of the literary device of the tragic warner or the wise adviser at every crisis (CP 34,24). A. H. Gilbert in "Did Plato Banish the Poets or the Critics?" (*Univ. of N.C. Studies in Philology* 36,1) argues that the protest was against the Athenian conception of poetry as primarily didactic. L. R. Lind has an article on "Unhellenic Elements in the Dionysiacs" in *L'Antiquité Classique* 7,57. An inexpensive edition, welcome for class use, of selections ranging from Callinus to Christian epigrams, with

vocabulary and notes, is furnished by A. Geerebart and P. Collins, *Selections from the Greek Lyrics* (Fordham Univ. Press, N.Y., 1939). In *Language, Lang. Diss.* 28, F. P. Jones studies the classification of the participle in "The *ab urbe condita* Construction in Greek." C. W. Peppler supports the scribes against the claims of the emenders in passages in *Lysias* which have as variant readings an aorist and a durative tense of the same verb (*AJP* 60,71). B. E. Perry furnishes some addenda to the revised *Liddell and Scott*, drawn largely from a hitherto unpublished manuscript of the Life of Aesop (*AJP* 60, 29).

Useful for teachers and students of the drama are the collected English translations, with introductions, occasional notes, and glossary, of the entire corpus of the Greek drama in W. J. Oates and E. O'Neill, *The Complete Greek Drama* (2 vols. Random House, N.Y., 1938). D. Fitts and R. Fitzgerald have added to their Alcestis a further English version, *The Antigone of Sophocles* (Harcourt, 1939), alternating aptness with inaccuracy. An English translation, competently done, has appeared from the editor of the Oxford Classical Text of Chariton in W. E. Blake, *Chaereas and Callirhoe* (Univ. of Michigan Press, 1938). The first anthology of Hellenistic Greek for English-speaking students has been collected by E. C. Colwell and J. R. Mantey in *A Hellenistic Greek Reader* (Univ. of Chicago Press, 1939), fully representative of the koine, even in the papyri.

#### INSCRIPTIONS AND PAPYRI

B. D. Meritt, H. T. Wade-Gery, and M. F. McGregor, in *The Athenian Tribute Lists* (vol. 1. Harvard Univ. Press, 1939), collect the results (with figures and plates) of years of study of the tributes which Athens received from the cities of her empire. B. D. Meritt publishes 14 inscriptions from the Agora bearing on the archonship of Cleisthenes, the Alcmaeonidae, and the Peisistratids (*Hesperia*, vol. 8,48). From fourth century Athens, E. Schweigert pre-



sents some epigraphical notes in *Hesperia*, vol. 8, 170. D. M. Robinson, "Inscriptions from Macedonia, 1938" (*TAPA* 69, 43) continues the publication, with 27 plates, of the inscriptional finds at Olynthus and other sites. In *TAPA* 69, 494 J. H. Oliver discusses an inscription concerning the Epicurean school at Athens. G. Bakalakis and R. L. Scranton decipher and interpret an inscription from Samothrace (*AJP* 60, 452).

G. Malz in "Three Papyri of Dioscorus" (*AJP* 60, 170) publishes from documents now in the Walters Art Gallery three petitions from the archives of Diocorus of Aphroditto. F. W. Beare analyzes and evaluates the Old Testament texts published in fasc. 6-7 of the Chester Beatty Papyri (*Chronique d'Égypte* 13, 364). H. C. Youtie, "Notes on B.G.U. IX" (*TAPA* 69, 77) concerning tax registers of the second century A.D., and L. Casson, "Tax-Collection Problems in Early Arab Egypt" (*TAPA* 69, 274) studied from the Greek papyri, also come under this head.

#### HISTORY AND CIVILIZATION

C. E. Smith and P. G. Moorhead, *A Short History of the Ancient World* (Appleton, 1939), stresses literature and culture, with perhaps too little attention to factual history, and is not without inaccuracies in details. C. A. Robinson has revised and rewritten, from the store of information the intervening years have piled up, G. W. Botsford's *Hellenic History* (Macmillan, 1939), which has held the field for 17 years. In *CP* 34, 305, A. T. Olmstead contends that the Persian wars were not won by competent Greeks, but lost by repeated military and diplomatic blunders on the part of the Persians. In "The Struggle for Power at Athens in the Early Fifth Century" (*AJP* 60, 232), C. A. Robinson criticises the views held by Walker and Munro in the *Cambridge Ancient History*. The falsity of many modern analogies to ancient things is the topic of L. R. Lind, "Economic Man in Ancient Athens" (*CJ* 35, 27). *The Problem of Freedom in Greece from Homer to*

*Pindar* is the title of a University of Toronto study (Oxford Univ. Press, 1938) by B. R. English. A. Diller in "Lists of Provinces in Ptolemy's *Geography*" (*CP* 34, 228) discusses the relation and authenticity of its various parts. A scholarly and judicious weighing of the Athenian contribution to the mechanics of jurisprudence will be found in J. F. Charles, *Statutes of Limitations at Athens* (Univ. of Chicago Diss., 1938). J. F. Cronin offers as an explanation of the well-attested mildness of the Athenian juror the fact that the Heliæa was a court of first appeal whose decisions were final (*CJ* 34, 471). According to L. Cohen in *AJA* 42, 486 the ram for warships was non-Minoan, and was invented by the Greeks, not by the Phoenicians. W. Jaeger's *Paideia* has been translated from the second German edition by G. Highet (Blackwell, 1939). A. Billheimer in "Amendments in Athenian Decrees" (*AJA* 42, 456) defends Athenian secretaries against the charge of combining resolutions in such a way as to confuse their meaning. L. R. Shero contributes an article on "Aristomenes the Messenian" (*TAPA* 69, 500) in support of Pausanias' account connecting him with the Second Messenian War.

#### ART AND ARCHAEOLOGY

A comprehensive summary of archaeological activities in Greece and among the islands is given by E. P. Blegen in *AJA* 43, 124. "The American Excavations in the Athenian Agora—Fifteenth Report" (*Hesperia*, vol. 8, No. 1) contains the discussion, with illustrations, of some 27 inscriptions by E. Schweigert and B. D. Meritt. L. B. Holland identifies the eastern half of the Peisistratid Hekatompedon as probably the early Acropolis prytaneum rather than the Old Temple of Athena (*AJA* 43, 289). O. Broneer thinks that the archaic poros head discovered on the North Slope of the Acropolis in 1938 belongs to the Herakles-Triton pediment group of the Old Temple of Athena (*Hesperia*, vol. 8, 91). An illustrated article, "Discoveries on the North Slope of the Acropolis, 1938" (*AJA*

42,445), by the same author, enumerates other finds, also, early vases, an archaic sphinx head, and a Mycenaean underground passage. *Hesperia*, Supplement 2 is devoted to the Late Geometric graves and a seventh century well in the Agora, with 156 illustrations in the text, by R. S. Young. A. E. Raubitschek discusses the monuments of athletic victors in Athens in *Hesperia*, vol. 8,155. R. L. Scranton traces the course of the Themistoclean fortifications of Athens and the Peiraeus at the opening of the Peloponnesian War (*AJA* 42,525).

On Corinth C. H. Morgan reports the clearing of the entire agora down to the Roman and partly to the Greek levels, announces some limited reconstructions, and adds notes on various buildings, coins, inscriptions, and pottery (*AJA* 43,255). O. Bronner finds light on the municipal affairs of the Roman city in "An Official Rescript from Corinth" (*Hesperia*, vol. 8,181). E. Capps, Jr. conjectures Pergamene influence, with possible variations, at Corinth from some of the finds there (*Hesperia*, vol. 7,539). S. S. Weinberg limits the period of the construction of the temple of Apollo at Corinth to the third quarter of the sixth century B.C. (*Hesperia*, vol. 8,191). M. T. Campbell catalogues 247 items from a well of the black-figured period at Corinth with some notes on local pottery (*Hesperia*, vol. 7,557).

C. W. Blegen continues his report from last year in "Prosymna: Remains of Postmycenaean Date" (*AJA* 43,410). The "Pyramids" of Argolis, in the opinion of L. E. Lord (*Hesperia*, vol. 7,481) were not tombs or cenotaphs as Pausanias believed, but probably served as guard houses for small garrisons; see also L. E. Lord, "Watchtowers and Fortresses in Argolis" (*AJA* 43,78); R. L. Scranton, "The Pottery from the Pyramids" (*Hesperia*, vol. 7,528), where ceramic evidence of the original date of these buildings is found lacking. A summary of the seventh and final campaign at Troy is given by C. W. Blegen in *AJA* 43,204. D. M. Robinson and G. E. Mylonas report on the

fourth campaign at Olynthus, where more than 100 houses have been uncovered, and discuss the finds (*AJA* 43,48). K. Lehmann-Hartleben reports on the excavations of 1938 of the somewhat neglected Samothrace (*AJA* 43,133). W. B. Dinsmoor restores the lost pedimental sculptures of Bassae in part from Niobe group statues in Copenhagen and the Terme (*AJA* 43,24). A. D. Fraser believes the "Capaneus" reliefs of the Villa Albani and the Art Institute of Chicago to be copies of a fifth century original Amazonomachy (*AJA* 43, 447). D. M. Robinson discusses three marble heads from Anatolia in his own collection (*Anatolian Studies Presented to W. H. Buckler*, Manchester Univ. Press, 1939). G. W. Elderkin assigns the archetype of the Sidarama sarcophagus to fourth century Athens (*Hesperia*, vol. 8,101) and traces the geographical and chronological wanderings of the symbolic bee ("The Bee of Artemis," *AJP* 60,203). C. R. Morey in *The Mosaics of Antioch* (Longmans, 1938) shows the interaction of East and West in this field for five centuries. G. M. A. Hanfmann discusses these mosaics also in *AJA*, 43, 229. In the *Bulletin of the Metropolitan Museum*, 33, 262; 34, 23; and 34, 98 respectively, recent interesting accessions are discussed by G. M. A. Richter, M. J. Milne, and C. Alexander. D. M. Robinson and S. E. Freeman, in *Corpus Vasorum Antiquorum U. S. A.*, fasc. 7 (Harvard Univ. Press, 1938), complete the account of the Robinson Collection, Baltimore, Md.

#### PHILOSOPHY AND RELIGION

H. Fränkel in "Heraclitus on God and the Phenomenal World" (*TAPA* 69, 230) interprets Diels frag. 67 on the assumption that Heraclitus' paramount concern was metaphysical, not physical. E. L. Minar finds Heraclitus' conception of Logos strongly influenced by certain implications of the Pythagoreans (*CP* 34, 323). *Who Was Socrates?* by A. D. Winspear and T. Silverberg (Cordon, N.Y., 1939) pictures Socrates as starting life humbly, far to the left, but moving to the right under the influence of

the best Athenian circles and finally losing his life because of his undemocratic beliefs. S. Lange (*CJ* 34, 480) defends Plato against the charge of being either a snobbish reactionary or a radical, revolutionary reformer. P. H. DeLacy writes on "The Problem of Causation in Plato's Philosophy" (*CP* 34, 97). P. Friedländer in "Dis kai Tris to Kalon" (*TAPA* 69, 375) uses the common Greek proverb to explain the scene in the Phaedo where Socrates suggests a libation of the poison to the gods. L. A. Post offers textual suggestions, emendations, and interpretations on books 6-12 of *Plato's Laws* (*AJP* 60, 93). J. A. Notopoulos, following an idea of Milton Parry, contends that the 'oral' style in philosophy will help to an understanding of Plato (*TAPA* 69, 465). The same author believes that Plato was a regular personal name given at birth, not a nickname (*CP* 34, 135). V. Johnson defines Aristotle's theory of value, comparing it with modern concepts (*AJP* 60, 445).

W. W. Tarn's "Alexander, Cynics, and Stoics" (*AJP* 60, 41) is a brilliant controversial article maintaining against Fisch that Alexander's universalism is certain and antedates Stoicism by 23 years. E. A. DeLacy has a long article, "Meaning and Methodology in Hellenistic Philosophy" (*Philosophical Review* 47, 390). P. H. DeLacy has a short article on the Epicurean analysis of language in *AJP* 60, 85. I. E. Drabkin notes that Epicurean physics registers a remarkable advance in the linking of the microscopic and the macroscopic worlds in a single kinetic theory (*TAPA* 69, 364). K. von Fritz has published *Philosophie und sprachlicher Ausdruck bei Demokrit, Plato, und Aristoteles* (Stechert, N.Y., 1938). A. Cameron finds in Sappho's prayer to Aphrodite a glimpse of religious usage, evidently traditional, not otherwise authenticated for Sappho's time (*Harvard Theological Review* 32, 1). G. Downey in "Personifications of Abstract Ideas in the Antioch Mosaics" (*TAPA* 69, 349) emphasizes the importance of such representa-

tions of abstractions in ancient philosophic teaching. R. Lattimore in "Herodotus and the Names of Egyptian Gods" (*CP* 34, 357) explains Herodotus' account of the Greek religious inheritance from Egypt.

The first translation of all the Apocrypha directly from Greek to English comes in the form of the sound and critical *The Apocrypha: An American Translation* by E. J. Goodspeed (Univ. of Chicago Press, 1938).

#### MISCELLANEOUS

G. Boas, *The Greek Tradition* (Johns Hopkins Press, 1939), is a collection of papers contributed to a symposium held at the Baltimore Museum of Art. The articles in *HSCP* 50 are presented in honor of C. B. Gulick; on the Greek side: S. Dow, "Aristotle, the Kleroteria, and the Courts"; J. H. Finley, Jr., "The Origins of Thucydides' Style." *Yale Classical Studies*, vol. 6, contains articles entitled: "Achilles' Son and Achilles" and "The Bacchae and Hippolytus," both by A. R. Bellinger; and "The Sources of the Pseudo-Aristotle de Mundo" by J. P. Maquire. Blackwell announces the *Collected Classical Papers of Gertrude Mary Hirst* of Barnard College (Oxford, 1938). In *The Coinage of the Eastern Seleucid Mints from Seleucus I to Antiochus III* (American Numismatic Society, N.Y., 1938), E. T. Newell restricts himself to a small portion of the Hellenistic Age; there are illustrations of one thousand coins. M. Thompson reports on a hoard of 677 coins of Greek federal silver (illustrated) in *Hesperia*, vol. 8, 116. W. H. P. Hatch describes and illustrates with 76 plates *The Principal Uncial Manuscripts of the New Testament* (Univ. of Chicago Press, 1939). A. Diller classifies the Mss. of the Ethnica in "The Tradition of Stephanus Byzantinus" (*TAPA* 69, 333). M. Bieber, whose valuable work in the field of the ancient theater is well-known, has just published through the Princeton Press (1939) *History of the Greek and Roman Theater*.



## SEMITIC LANGUAGES AND LITERATURES

BY CYRUS H. GORDON

MEMBER, INSTITUTE FOR ADVANCED STUDY; LECTURER, SMITH COLLEGE

## GENERAL

The war in Europe is shifting the center of Semitics more and more toward America as humanistic research is increasingly curtailed in Germany, France, Great Britain, and other countries. It is to be hoped that more publication space will be provided in America now that European outlets for articles and monographs are gradually disappearing.

Although the war is halting excavation and thereby the discovery of new inscriptions and artifacts, the material on hand is more than enough for the available scholars to study, publish, and integrate for years to come. There will continue to be little excuse for rehashing in the field of Near East studies while the cultural history of ever so many centuries remains to be written.

On June 29, American Semitists lost their most learned colleague in the death of Prof. Nathaniel Schmidt of Cornell University. On the credit side is the advent of the distinguished Italian Arabist, Prof. Levi della Vida, now of the University of Pennsylvania.

For articles, reviews and reports of current progress, the reader may consult the *American Journal of Archaeology*, *American Journal of Semitic Languages*, *Ars Islamica*, *Bulletin of the American Schools of Oriental Research*, *Jewish Quarterly Review*, *Journal of the American Oriental Society*, *Journal of Biblical Literature*, and *Moslem World*. It is a pleasure to note that the *Hebrew Union College Annual*, under the energetic guidance of President Julian Morgenstern, is attaining a position of prominence not only for Hebraica and Judaica but also for the study of ancient western Asia.

## MESOPOTAMIA

The able field archaeologist, Dr. R. F. S. Starr, has put out a creditable

volume on the American excavations at Nuzi from 1925 to 1931; to wit, *Nuzi I* (text) (Harvard U. Press; xxxviii, 615 pp.). (*Nuzi II* [plates] appeared in 1937.) While the site has yielded gratifying results in many types of relics from a number of eras, it is best known for the rich archives of Babylonian tablets from the fifteenth century B.C. Among the appendices written by different persons is one on "Epigraphic Evidences of the Material Culture of the Nuzians" by E. R. Lacheman (pp. 528-544). Since Dr. Lacheman draws extensively on unpublished texts, his contribution is of prime importance pending their publication. Of special significance is the sizable number of words that he adds to the growing Hurrian lexicon. Cuneiformists are also beholden to Lacheman for a volume of Nuzi tablets: *Miscellaneous Texts* (*Publications of the Baghdad School VI*; New Haven; pls. 512-616; \$2). Lacheman's copies are unusually objective because they have been made by tracing photographs. His facsimiles of the seal impressions are as important for the study of Kirkuk-style glyptics as his autographs are for philology. Thanks largely to American scholarship, the Nuzi tablets are among the best-studied groups of cuneiform inscriptions.

The Oriental Institute of the University of Chicago has produced *Studies in Akkadian Grammar* (\$5) by A. Poebel, *The Sumerian King List* (\$5) by T. Jacobsen and *Sculpture of the Third Millennium B.C. from Tell Asmar and Khafajah* (xiii, 78 pp.; 116 pls.; 5 figs.; colored frontispiece; \$12) by H. Frankfort.

The Canadian Egyptologist and Semitist, Prof. Samuel Mercer, has put out a corpus of the *Tell El-Amarna Tablets* (2 vols.; Macmillan). These documents are among the most important of any land and any period.



The bulk of them are letters exchanged between the Pharaohs, Amenophis III and IV, on the one hand, and the rulers of Mesopotamia, Asia Minor, and Canaan, on the other. This diplomatic correspondence, of unique linguistic as well as political interest, has grown since the German edition of Knudtzon. Mercer has incorporated all the extant texts with the exception of eight recently excavated tablets that the writer of this review has prepared for press.

#### CANAAN

The ancient strip of Fertile Crescent along the Syro-Palestinian coast bore the Hurrian name of "Canaan." The Land of Canaan is at present a particularly fruitful research field what with the new epigraphical finds at Ugarit and Lachish. Z. S. Harris traces the history of Hebrew, Moabite, Phoenician, and other closely related tongues in a monograph entitled *The Development of the Canaanite Dialects* (*American Oriental Series XVI*; xx, 108 pp. with chart of linguistic changes). There is disagreement with Harris on a number of major as well as minor points, some of which are brought out in this writer's forthcoming *Ugaritic Grammar*. Harris' study is the best contribution to Semitic linguistics during 1939. Future studies of Canaanite should reckon adequately with the fact that the poetry, whether in the Ugaritic epics or in the Old Testament, is couched in a cross between the "hymnal-epic" dialect and the prose of the locality and period.

Canaanite poetry is expressed in forms of parallelism. Groups of lines often constitute larger units called strophes. C. F. Kraft has analyzed Psalms 1-41 as the basis for a doctoral dissertation on *The Strophic Structure of Hebrew Poetry* (U. of Chicago Press; Dec., 1938; 117 pp.).

Kraft's study is heartily recommended although the Ugaritic poems disprove his view that "the particular poem was composed of but one type of strophe" (p. 106). The time has come when the Bible scholar simply must take into account the grow-

ing material from the lands and times that produced the Scriptures.

The excavations of the Oriental Institute at Megiddo are often, and justly, called the model of such work in the Near East. *Megiddo I* (xxvii, 235 pp.; 116 pls.; 124 figs.; \$20) by R. S. Lamon and G. M. Shipton covers the excavations conducted from 1925 to 1934 in strata I-V (ca. 1050-350 B.C.). This book is admirably arranged in ever so many ways: a glance at the top of the page reminds the reader of the level being discussed and its date; the pertinent section of the descriptive catalogue is placed opposite each plate; etc., etc. G. Loud is to be congratulated on his publication of the highly important *Megiddo Ivories* (\$15). (Cf. Shipton's *Notes on the Megiddo Pottery of Strata VI-XX* [\$4]).

#### ARABIA AND ISLAM

Though it is not a focus of revolutionary discoveries like the cuneiform literatures of western Asia, Arabic remains the cornerstone of Semitic linguistics, and the Arabs constitute the living Semitic world. Under P. K. Hitti's leadership, Princeton University has become a center of Islamic publications. The rich Garrett Collection of manuscripts in the University Library has been catalogued and described in two volumes issued by the Princeton U. Press. The larger volume is the *Descriptive Catalog of the Garrett Collection of Arabic Manuscripts* (xii, 668 + xxiii, 56 pp.; \$15) by Hitti, Faris and Abd-Al-Malik. The 2,225 entries are a cross-section of one of the world's greatest literatures. The other volume is the *Descriptive Catalog of the Garrett Collection of Persian, Turkish and Indic Manuscripts* (Princeton U. Press; X, 94 pp.; \$7.50) by M. E. Moghadam and Y. Armajani under Hitti's supervision. Islamists can ill afford to do without these catalogues. It is also welcome news that a second edition of Hitti's unbiased and readable *History of the Arabs* is in press.

Dr. N. Abbott has described *The Rise of the North Arabic Script and*

## INDO-EUROPEAN LINGUISTICS

*Its Kur'ānic Development, with a Full Description of the Kur'ān Manuscripts in the Oriental Institute* (U. of Chicago Press; xxii, 101 pp.; 1 fig.; 33 pls.; 1 map; \$10).

### EGYPT

Sometime around the middle of the fourth millennium B.C. independent systems of writing appear in the two cradles of civilization, Egypt and Mesopotamia. However, both countries and the lands between them had a long prehistory. Delving deep into the past, K. S. Sanford and W. J. Arkell have produced the fourth volume of their monumental *Prehis-*

*toric Survey of Egypt and Western Asia* entitled *Paleolithic Man and the Nile Valley in Lower Egypt, with some Notes upon a Part of the Red Sea Littoral: A Study of the Regions during Pliocene and Pleistocene Times* (U. of Chicago Press; xix, 105 pp.; 30 pls.; 23 figs.; 1 map; \$8). U. Hölscher continues his excellent record of publication with *The Excavation of Medinet Habu II: The Temples of the Eighteenth Dynasty* (xvii, 123 pp.; 58 pls.; 96 figs.; 3 tables; \$22).

Prof. N. Reich of Dropsie College continues to edit the Egyptological journal *Mizraim*.

## INDO-EUROPEAN LINGUISTICS

By GEORGE S. LANE

ASSOCIATE PROFESSOR, UNIVERSITY OF NORTH CAROLINA

### THE LINGUISTIC SOCIETY OF AMERICA

The fifteenth annual meeting of the Society was held at New York, Dec. 27-29, 1938, jointly with the American Anthropological Association, the Society for Biblical Literature and Exegesis, and the Modern Language Association of America. No attempt is made here to summarize the proceedings of that meeting. These will be found in the *Supplement to Language*, Vol. 15, No. 1 (*Bulletin* No. 12).

The Linguistic Institute was held again at Ann Arbor, June 26-Aug. 18, under the joint auspices of the Linguistic Society and the University of Michigan Summer session. In addition to the regular class and laboratory work in linguistics given by members of the Michigan faculty and special instructors from other institutions, a series of afternoon and evening lectures and of luncheon conferences was given by noted scholars in various fields, e.g., R. G. Kent (Pennsylvania), E. H. Sturtevant (Yale), L. Bloomfield (Chicago). The director of the Linguistic Institute was, as during previous years at Ann Arbor, Prof. Charles G. Fries

of the Department of English at the University of Michigan.

The Society records the irreparable loss, through death, of the outstanding and versatile linguist and anthropologist, Edward Sapir, on Feb. 4, 1939. Sapir is perhaps best known for his works on American Indian languages, but Indo-Europeanists know the worth of his scholarship in this field also in which he received his earlier training. In his later years, since joining the Yale faculty, Sapir had turned again to Indo-European studies, interesting himself particularly in Pre-Indo-European phonology, as a sponsor of the "laryngeal" hypothesis. He was greatly interested too in the prehistoric contacts and mutual influences between Indo-European and other language families. An obituary is published in *Language* XV, 132-5. Word comes also of the sudden death of Prof. Walter Peterson of the University of Chicago. Professor Peterson had been collaborating with Prof. C. D. Buck for several years on a gigantic work on Greek noun formation, now partially in the press. In recent years he had likewise produced numerous articles on Hittite and Tocharian. The obituary of

Eduard Prokosch, whose death was recorded in *THE AMERICAN YEAR BOOK* for 1938 (p. 852) will be found in *Language* XIV, 310-13.

#### GENERAL CONTRIBUTIONS

*The Wonder of Words* (New York and London, 1938) by I. Goldberg is a book written with good intentions and much enthusiasm for language study. The volume is intended to awaken the interest of the public in the subject. Unfortunately, Dr. Goldberg was not a technical scholar in the field of linguistics, and his book is marred by many errors due to lack of training in that field. It is a shame that this book, intended as "an introduction to language for every man," can not be recommended to the general public, for Dr. Goldberg was writing with honesty of purpose. So the crying need for such a book written by a competent scientific linguist is still with us.

*Fragments from Babel* (New York, 1939) by J. D. Prince is a collection of 16 scholarly and semi-popular essays by Professor Prince published by Columbia University Press as an honorary volume and presented to the author on his seventieth birthday. In his article "The Problem of the Hybrid Language" (*J.E.G.Ph.* 38, 23-41) M. H. Roberts makes an attempt at a technique for the scientific observation of bilingualism. More particularly for the Indo-Europeanist are E. H. Sturtevant's discussion of "The Prehistory of the Indo-European  $\bar{a}$ -Stems" (*Lang.* 14.239-47), concerned chiefly with the consequence of the "laryngeal" hypothesis for Indo-European  $\bar{a}$ -stem nouns and verbs on the basis of Hittite evidence, and E. F. Claflin's article on "The Voice of the Indo-European Perfect" (*Lang.* XV, 155-9), in which Miss Claflin argues for the originality of the middle voice.

At the end of the discussion of "Glottalized Continuants in Navaho, Nootka, and Kwakiutl" (*Lang.* XIV, 248-74), E. Sapir draws a parallel in certain phonetic developments in Greek to support the "laryngeal hypothesis." An unfinished article by Sapir on "The Indo-European Words

for Tear" is edited by E. H. Sturtevant in notes "From Sapir's Desk" (*Lang.* XV, 178-87).

#### INDO-IRANIAN

*Indic Studies in America*, published by the American Council of Learned Societies as *Bulletin* No. 28 (Washington, 1939), might well have the subtitle *Handbook for American Students of Indology*. The contributors are W. N. Brown: "India and Humanistic Studies in America"; H. I. Poleman: "Facilities for Indic Studies in America: a Survey"; E. H. Cutts: "A Basic Bibliography for Indic Studies," "List of Indic and Greater India Texts," "A Basic Bibliography on Indic Dialects," and "A Basic Bibliography on Greater India." H. I. Poleman has also published "A Census of Indic Manuscripts in the United States and Canada" (*American Oriental Society Series* 12, New Haven 1938). A review by M. B. Emeneau will be found in *J.A.O.S.* 59.133-5. F. Edgerton has contributed two articles "The Epic *Tristubh* and Its Hypermetric Varieties" (*J.A.O.S.* 59.159-74) and "Endingless Noun Case Forms in Prakrit" (*ibid.* 369-71). E. H. Sturtevant in "Sanskrit  $\bar{a}$  'near' is Cognate with latin  $\bar{a}$  'from'" (*Lang.* XV.145-54) makes use of additional Hittite materials in reviving an old etymology. For Iranian there is R. G. Kent's edition and translation with commentary of the Old Persian inscriptions at the tomb of Darius the Great, "The Naks-i Rostam Inscriptions of Darius" (*Lang.* XV.160-77).

#### HITTITE

Hittite continues to be a fruitful field of linguistic investigation. E. H. Sturtevant gives a brief summary of his theory with regard to the relationship of Hittite to the rest of the Indo-European languages in the prospectus of the Linguistic Institute (*University of Michigan Official Publication*, Vol. 41, No. 5, pp. 3-8) "The Indo-Hittite Hypothesis." Professor Sturtevant looks to the investigation of other "Anatolian languages" for further clarification of the Pre-Indo-European speech. In another article "The Pronoun \**so*, \**sā*, \**tod* and



the Indo-Hittite Hypothesis" (*Lang.* XV.11-19), the same author advances further arguments for the separation of Hittite from Indo-European at an earlier date than the rest of the Indo-European languages by his analysis of the demonstrative pronoun stem. A. Goetze has published two studies, one a semantic note "Hittite *tar-kuwa(i)*" (*Lang.* XV.116-9), the other, an edition of a short fragment of a Hittite clay tablet in the "Cuneiform Inscriptions from Larsus" (*J.A.O.S.* 59. 1-16). Walter Peterson deals again with the "laryngeal" hypothesis in "Hittite *h* and Saussure's Doctrine of the Long Vowels" (*JAOS* 59.175-99). Miss E. A. Hahn's syntactic outline "Hittite *kinum* = Lat. *nunc* and *num*" (*AphA Proceedings* 69 [1938], lii) gives a sample of her promised monograph *Parataxis and Hypotaxis*.

#### GREEK AND LATIN

F. P. Jones' dissertation (Wisconsin) *The Ab Urbe Condita Construction in Greek* (Baltimore, 1939, *Language Dissertation No.* 28) has the subtitle "a study of the classification of the participle." Likewise the dissertation (Chicago) of Miss Dorothy M. Paschall, *The Vocabulary of Mental Aberration in Roman Comedy and Petronius* (*Language dissertation No.* 27) appeared in 1939. The untimely death of Miss Paschall was recorded in THE AMERICAN YEAR BOOK for 1938. Prof. R. G. Kent's edition and translation of Varro, *On the Latin Language* (cf. THE AMERICAN YEAR BOOK, 1938 p. 854), is the subject of a valuable review by G. M. Bolling (*Lang.* XIV.291-300, XV. 129-30). J. F. Gummere discusses the endlingless imperatives "Dic, duc, and fac" in *TAPA* 69.389-91. J. Whatmough studies "A New Umbrian Inscription of Assisi" in *Harvard Studies in Class. Phil.* 50. 89-93.

#### GERMANIC

**General.**—Undoubtedly the work of the year is *A Comparative Germanic Grammar* (Philadelphia, 1939; William Dwight Whitney Linguistic Series) by E. Prokosch. The accidental death of Professor Prokosch was recorded in THE AMERICAN YEAR

BOOK for 1938 (p. 852). Prof. Hans Kurath saw the book through the press and supplied a preface. The work is destined to give Prokosch a place among the great Germanists of our time, whether or not there may be agreement with him in every detail. A critical review by the present writer will be found in *Lang.* XV. 194-205. The dissertation (Princeton) of H. D. Merritt, *The Construction ἀπόκλινοῦ in the Germanic Languages* appears in the *Stanford Publications, Language and Literature*, Vol. 7, No. 2 (1938). Three general Germanic studies are: L. G. Downs, "Notes on the Intensive Use of Germanic \**te*, \**to* 'to: too'" (*JEGPh.* 38.64-8); G. S. Lane, "Pure Labials from Labiovelars in Germanic" (*ibid.* 184-200) (denies the development as a phonetic law and seeks independent explanations for the examples cited in the literature); W. F. Twaddell, "The Inner Chronology of the Germanic Consonant Shift" (*ibid.* 337-59) (Historico-critical survey of the problem, especially from the point of view of examining possible criteria for determining the order of the Germanic consonant mutations).

**Gothic.**—A. M. Sturtevant in "Concerning Gothic Intransitive Verbs" *AJPh.* 59.460-70 discusses the derivation of *siukan*, *wakan*, *waknan*, *riqizjan*, *judawiskōn*, *blōtan*, *þragjan*; F. Mezger in "(Nach)gehen und Wissen; Goth. *lais* : *leiþan* ?" (*Gmc. Rev.* 14.215-8) offers a semantic analysis of the proposed etymology.

**Old Icelandic (Old Norse).**—The dissertation (Bryn Mawr, 1935) of M. Schneiders, "Die einheimischen nicht komponierten schwachen Verben der *jan*-Klasse im Altnordischen" appears as *Hesperia*, No. 19 (Göttingen and Baltimore, 1938). G. T. Flom's article "On the History of Views about the Vowel System of Old Norse" (*JEGPh.* 38.549-67) is a valuable survey from Rask to Noreen. A. M. Sturtevant contributes three discussions: "A Derivation of the Old Norse word *Verð* a Poetic Designation for 'Woman'" (*Scand. Stud. and Notes* 15.158-9) (connects with



*verja* 'clothe'); "The Doublets Old Icelandic *Skyti* : *Skytja* 'Shooter, Marksman'" (*MLN* 54.445-7); "Certain Types of Collective Plurals in the Elder Edda" (*Gmc. Rev.* 14.126-37).

**West Germanic.**—A. M. Sturtevant's article "West Germanic Notes" (*JEGPh.* 37.559-66) discusses five topics: 1. Absence of *i*-umlaut of *a* in the preterit subjunctive of weak verbs without medial vowel in West Germanic; 2. Compensative lengthening of vowel preceding the loss of intervocalic *h*; 3. Old English and Old Saxon verbal prefixes *ar-* > *a-* but *for-* before a consonant; 4. Old Saxon *hadda* : *gehuddigon*; 5. Loss of final *t* after *f* and *ch* (*h*) in Old Saxon. G. Nordmeyer has published a short history of the German language, *Werden und Wesen der deutschen Sprache* (New York, 1939), intended for use in advanced college classes. A critical review by R-M. S. Heffner will be found in the *Monatshefte für deutschen Unterricht* 31.303-9. E. H. Sehr't's discussion "The Comparative and Superlative Suffixes *-er-* *-est-* and *-ôr-* *-ost-* in Norker's Works" (*MLN* 54.1-8) grows, no doubt, out of the author's edition (with Professor Starck) of Norker now in preparation. For English we have two articles to mention, S. N. Kuhn, "The

Dialect of the Corpus Glossary" (*PMLA* 54.1-19), and Kemp Malone's valuable critical synthesis of recent English language studies "Some Linguistic Studies of 1937 and 1938" (*MLN* 54.525-41).

#### MISCELLANEOUS

A comprehensive study of a difficult subject is presented by W. Petersen in "The Primary Cases of the Tocharian Nominal Declension" (*Lang.* XV.72-98). "Indo-European Prevocalic *s* in Macedonian" (*AJPh.* 60.463-5) by E. Sapir (also in "From Sapir's Desk" *Lang.* 15.178-87) shows the hand of a master unfortunately not permitted to continue his investigations in these outlying branches of Indo-European to which he had turned again in the last few years (cf. above). J. A. Kerns in "The Imperfect in Armenian and Irish" (*Lang.* XV.20-33), investigates the principles involved in certain parallel developments of the verb in these two widely separated languages. A. Senn's discussion of "The Accentuation of Lithuanian *-ybe*" (*Lang.* XV.189-93) is concerned with the varieties of Lithuanian accent and the shift of dialectal influence from West to East in determining correctness in the present written language.

#### PERIODICAL PUBLICATIONS

*American Historical Review*  
1430 East Franklin Street, Richmond, Va.  
*American Journal of Philology*  
Johns Hopkins Press, Baltimore, Md.  
*American Journal of Semitic Languages and Literatures*  
5750 Ellis Ave., Chicago  
*American Spectator*  
683 Broadway, New York City.  
*American Speech*  
Columbia University Press, New York City.  
*Atlantic Monthly*  
8 Arlington Street, Boston.  
*Celtic Digest*  
Columbia University, New York City.

*Classical Journal*  
Menasha, Wis.  
*Classical Philology*  
5750 Ellis Ave., Chicago.  
*Classical Weekly*  
4200 Fifth Ave., Pittsburgh, Pa.  
*Commonweal (The)*  
386 Fourth Ave., New York City.  
*Editor and Publisher*  
Times Sq., New York City.  
*Germanic Review*  
Columbia University Press, New York City.  
*Harper's Magazine*  
49 East 33d Street, New York City.  
*Hispanic Review*  
University of Pennsylvania Press, Philadelphia.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

- |   |   |
|---|---|
| <p><i>Journal of American History</i><br/>175 Fifth Ave., New York City.</p> <p><i>Journal of English and Germanic Philology</i><br/>University of Illinois, Urbana, Ill.</p> <p><i>Journal of Modern History</i><br/>5750 Ellis Ave., Chicago.</p> <p><i>Lance</i><br/>2512 East 5th Street, Dayton, O.</p> <p><i>Language</i><br/>University of Pennsylvania, Philadelphia.</p> <p><i>Library Journal</i><br/>62 West 45th Street, New York City.</p> <p><i>Library Quarterly</i><br/>5750 Ellis Ave., Chicago.</p> <p><i>Literary America</i><br/>175 Fifth Ave., New York City.</p> <p><i>Literary Digest</i><br/>233 Fourth Ave., New York City.</p> <p><i>Literary World</i><br/>12 Mount Morris Park W., New York City.</p> <p><i>Magazine</i><br/>512 California Bank Building, Beverly Hills, Calif.</p> <p><i>Modern Philology</i><br/>5750 Ellis Ave., Chicago.</p> <p><i>New England Quarterly</i><br/>Plimpton Press, Norwood, Mass.</p> | <p><i>North American Review</i><br/>597 Madison Ave., New York City.</p> <p><i>Philological Quarterly</i><br/>University of Iowa, Iowa City, Ia.</p> <p><i>Poetry</i><br/>232 East Erie Street, Chicago.</p> <p><i>Poetry Digest</i><br/>220 West 42nd Street, New York City.</p> <p><i>Poetry Review</i><br/>280 Madison Ave., New York City.</p> <p><i>Poet's Magazine</i><br/>101 West 44th Street, New York City.</p> <p><i>Romantic Review</i><br/>Columbia University Press, New York City.</p> <p><i>Saturday Review of Literature</i><br/>25 West 45th Street, New York City.</p> <p><i>Scribner's Magazine</i><br/>570 Lexington Ave., New York City.</p> <p><i>Studies in Philology</i><br/>University of North Carolina Press, Chapel Hill, N.C.</p> <p><i>Words</i><br/>808 South Vermont Ave., Los Angeles, Calif.</p> <p><i>Yale Literary Magazine</i><br/>Yale Station, New Haven, Conn.</p> |
|---|---|

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

### GENERAL

- |   |   |
|---|---|
| <p>AMERICAN ACADEMY OF ARTS AND LETTERS, 633 W. 155th St., New York City.</p> <p>AMERICAN ACADEMY OF ARTS AND SCIENCES, 28 Newbury St., Boston, Mass.</p> <p>AMERICAN BOOKSELLERS ASSN., 35 E. 20th St., New York City.</p> <p>AMERICAN COUNCIL OF LEARNED SOCIETIES, 907 Fifteenth St., N.W., Washington, D.C.</p> <p>AMERICAN LIBRARY ASSN., 520 N. Michigan Ave., Chicago, Ill.</p> <p>AMERICAN NEWSPAPER GUILD, 1560 Broadway, New York City.</p> <p>AMERICAN NEWSPAPER PUBLISHERS' ASSN., 370 Lexington Ave., New York City.</p> | <p>AMERICAN PHILOSOPHICAL ASSN., Brown University, Providence, R.I.</p> <p>AMERICAN PHILOSOPHICAL SOCIETY, 104 S. Fifth St., Philadelphia, Pa.</p> <p>AMERICAN SOCIETY OF COMPOSERS, AUTHORS AND PUBLISHERS, 30 Rockefeller Plaza, New York City.</p> <p>AMERICAN SOCIETY OF NEWSPAPER EDITORS, Times-Union Bldg., Rochester, N.Y.</p> <p>ASSOCIATION OF NATIONAL ADVERTISERS, 330 W. 42nd St., New York City.</p> <p>ASSOCIATED PRESS, 383 Madison Ave., New York City.</p> <p>BIBLIOGRAPHICAL SOCIETY OF AMERICA, Grosvenor Library, Buffalo, N.Y.</p> <p>BOOK PUBLISHERS BUREAU, 347 Fifth Ave., New York City.</p> <p>FOREIGN PRESS PUBLICITY SERVICE, 258 Fifth Ave., New York City.</p> |
|---|---|

## XXV. LITERATURE AND LANGUAGE

GERMAN CLUB, 5 E. 66th St., New York City.

NATIONAL EDITORIAL ASSN., 134 N. La Salle St., Chicago, Ill.

NATIONAL INSTITUTE OF ARTS AND LETTERS, 633 W. 155th St., New York City.

NATIONAL PUBLISHERS' ASSN., 232 Madison Ave., New York City.

NEWSPAPER ADVERTISING EXECUTIVES ASSN., 1708 Mariner Tower, Milwaukee, Wis.

UNITED PRESS ASSN., 220 E. 42nd St., New York City.

U. S. PUBLISHERS ASSN., INC., 386 Fourth Ave., New York City.

### AMERICAN LITERATURE

AMERICAN DIALECT SOCIETY, Bascom Hall, Madison, Wis.

AUTHORS GUILD, 6 E. 39th St., New York City.

AUTHORS LEAGUE OF AMERICA, INC., 6 E. 39th St., New York City.

CATHOLIC WRITERS GUILD OF AMERICA, 128 W. 71st St., New York City.

NATIONAL ASSN. FOR AMERICAN SPEECH, 174 W. 76th St., New York City.

SIMPLIFIED SPELLING BOARD, Lake Placid Club, Essex County, N.Y.

WALT WHITMAN SOCIETY OF AMERICA, 377 Anchor Ave., Oceanside, L. I., N.Y.

### LANGUAGE AND LITERATURE

AMERICAN CLASSICAL LEAGUE, New York University, Washington Sq. East, New York City.

AMERICAN ORIENTAL SOCIETY, Trinity College, Hartford, Conn.

AMERICAN PHILOLOGICAL ASSN., Haverford College, Haverford, Pa.

DANTE ALIGHIERI SOCIETY OF NEW YORK, 626 Fifth Ave., New York City.

DICKENS AMERICAN FELLOWSHIP, 280 Madison Ave., New York City.

MODERN LANGUAGE ASSN. OF AMERICA, 100 Washington Sq. E., New York City.

## DIVISION XXVI THE ARTS

### ARCHAEOLOGY

BY DONALD F. BROWN

FELLOW, AMERICAN ACADEMY IN ROME

---

#### GREECE

**Pylos.**—In spite of the unsettled conditions in Europe in the second half of 1939, American archaeological activity in the Mediterranean area has been both diversified and of great importance. The most exciting discoveries were those made on the Island of Pylos by Carl Blegen who formerly was engaged in the excavation of Troy. He is working, as before, under the auspices of the American School in Athens and the University of Cincinnati. The Island of Pylos is well known from Homeric sources as the home of Nestor, and once more the spade has added proof to the poet's words. A large building complex has been laid bare, dated by the excavator to the late thirteenth century B.C., and within the building have been found some 600 inscribed clay tablets written in Evans' linear class B script. The tablets appear to contain lists and inventories, and it is to be hoped that they will afford the means for finally deciphering Minoan script. The size of the building, together with these important archive tablets, surely indicates that the very palace of Nestor is now before us.

**Athens.**—In Athens, Dr. T. Leslie Shear of Princeton University, working under the auspices of the American School in Athens, continues to reveal important episodes in the history of this Greek center. In this ninth season of excavation, a Mycenaean royal chamber tomb of the

fourteenth century B.C. has been found in the Areopagus hill. The wealth of its contents demonstrates that Athens must already at that early date have been a wealthy community. A very striking ivory box carved with reliefs which rank among the finest examples of Mycenaean art was among the contents of the tomb. It has been suggested that the chamber was occupied by a queen, possibly a member of the dynasty of Erechtheus, the legendary king of Athens. Evidence has also been found at Athens to substantiate the date of around 450 B.C. for the erection of the Hephaisteion.

**Samothrace.**—In the Aegean islands, Dr. Karl Lehmann-Hartleben, working under the auspices of the Archaeological Research Fund of New York University, completed late in the summer his second season of investigation centered on the Island of Samothrace, famed in antiquity as the home of the mystery cult of the Kabiroi. Activity was concentrated around the Anaktoron discovered last year, the Arsinoeion, and the site of the Winged Victory, which has been for many years in the Louvre. Important results have already been announced concerning a hitherto unsuspected archaic culture at the island sanctuary. The many Hellenistic buildings are to be subjected to searching scrutiny by the expedition, and it is hoped that many problems of Hellenistic architectural chronology



will be solved. A local museum is being constructed by the expedition to house the excavated material.

**Delphi and Thermopylae.**—A word may be added here of the rich treasure of gold, ivory and bronze discovered by the French at Delphi, and of the Greek Government's activity at Thermopylae, where the probable tomb of Leonidas and his heroic Three Hundred has been found.

#### ANTIOCH

Considerably greater American activity has been shown in recent years in the Near Eastern field than in any other of the European archaeological centers. Dr. W. H. Campbell of Wellesley College continues his work at Antioch-on-the-Orontes, under the auspices of Princeton University, the Louvre, the Baltimore Museum of Art, the Dumbarton Oaks Collection, the Fogg Museum, and the Worcester Art Museum. Excavations were carried on at Antioch itself, in Daphne its suburb, and in Seleucia its port. The results of this eighth campaign in objects found transcend any previous season. A most noteworthy series of fine mosaic floors was discovered, which further enlarges the extraordinary number of mosaics which have come from this site. A preliminary study of these mosaics has been published by Dr. C. R. Morey of Princeton.

#### PALESTINE

**Ezion-Geber.**—In Palestine, Dr. Nelson Glueck, under the auspices of the American School of Oriental Research in Jerusalem, excavated at Ezion-Geber, which is mentioned in the Old Testament as the port of Solomon. The investigations there have proved this statement, and have added the fact that the city was a great metal-smelting center. Smelter buildings have been unearthed which show a unique utilization of natural wind currents for draught purposes. The date of the *floruit* of the city has been fixed by pottery and other finds as Solomonic. Dr. Glueck has also shown considerable activity in the systematization of Nabataean archae-

ology. A survey of Transjordan has revealed a vast number of sites of which several are being excavated, among them Khirbet et-Tannur (jointly with the Transjordan Government), where a late shrine of Zeus-Hadad has been found. Another result of the survey has been the dating of the Early Bronze Age occupation of Transjordan before the twenty-third century B.C.

**Megiddo.**—At Megiddo, ancient Armageddon, Dr. Gordon Loud, working under the auspices of the University of Chicago, has announced the discovery of rock drawings of the late fourth millennium B.C., and suggests that the site was one of the first permanent settlements made on the main route between Egypt and Asia. In later levels of the city, some very interesting megaron-like structures have been found, dated 1950-1850 B.C., which bear strong resemblance to houses found in Troy II by Blegen, dated some centuries earlier. Ever increasingly, the essential homogeneity of Mediterranean cultures becomes apparent.

**The Colt Archaeological Expedition**, which worked for several seasons at S'beitah and Ajja al Hafir in the Negeb of Palestine, was prevented from further work by the Arab insurrection. A final announcement of a reconnaissance trip informs us that the Khalassa dump-heaps are to be dated not earlier than the third or fourth centuries A.D. The loss by fire of the expedition headquarters, which contained a large amount of excavated material, is to be regretted. A similar loss was suffered by the model English excavations at Lachish (Tal ed Duweir), and a far greater one in the murder by Arab brigands of its director, J. L. Starkey.

#### IRAN (Persia)

In territory further east, the Institute for Iranian Studies conducted an epigraphical survey. The work was concentrated largely in the central plateau region of Iran, the old province of Jibal, with extensions down as far as southern Fars, for a definitive study of the Sassanian palace at Sarvistan, and into north-

western Azerbaijan for the study of the late Seljuk and Mongol monuments. Every known type of monument was studied, including fortifications, and profitable studies of old gardens were also made. Nineteen of the 68 monuments studied had not previously been noted. Sixty-one monuments were descriptively analyzed and recorded in full detail. Many photographs were also taken. The expedition was under the direction of Arthur Upham Pope.

The Metropolitan Museum of Art is continuing its expedition to Nishapur under the direction of Associate Curator J. M. Upton.

The Oriental Institute of Chicago is also continuing its work at Persepolis on the treasury buildings of Darius and Xerxes, jointly with the Boston Museum of Fine Arts and the University of Pennsylvania. Dr. Erich Schmidt is directing the field work. It is reported that several volumes concerning the results of these excavations are in progress.

#### EGYPT

Foreign activity in Egypt has been decreasing ever since the export of antiquities has been almost totally prohibited by the government. The Oriental Institute of Chicago, with headquarters at Thebes, under the direction of Dr. Harold Nelson, is completing its epigraphical survey of Upper Egypt. No serious excavational work is being undertaken.

#### ITALY

In Italy, too, governmental intervention has made foreign excavational activity almost nonexistent. However, Dorothy Hill of the Walters Art Gallery, Baltimore, conducted a small excavation at the Etruscan site, Castelaccio of Castel Campanile. The work was financed by the Penrose Fund of the American Philosophical Society, and was conducted by the Archaeological Service of the Italian Government. Evidence of a small Etruscan city was discovered, along with some extremely crude tombs of the IV-III century B.C. The town was probably a small trading station between Caere and Veii.

The great work on Christian basilicas undertaken by Dr. Richard Krautheimer of Vassar College, of which two volumes have already appeared, has required a number of small excavations on various sites, chiefly in Rome. The Italian Government executed the majority of these.

Important work has also been done upon the Arch of Septimius Severus by Erling Olsen, formerly Fellow of the American Academy in Rome. The publication of this monument is eagerly awaited.

Due to the growing popular interest in things Roman, it may not be out of place to mention the major Italian discoveries, which include the Julio-Claudian relief from the Cancelleria, the Temple of Veiovis near the Tabularium, and the liberation of the whole of ancient Ostia now in progress as a part of the plan for the 1942 exposition there (*deo volente*).

#### MEXICO

In the Americas the most important archaeological news is that of the discovery in Tres Zapotes, Mexico, by M. W. Stirling, leader of the National Geographical Society-Smithsonian Institution Archaeological Expedition to Vera Cruz, of the oldest dated work of man in the Americas, a Mayan stele bearing a date of Nov. 4, 291 B.C. (Spinden) or 31 B.C. (Goodman-Thompson). A very spectacular find at the same site is a six-foot human head, estimated to weigh some ten tons, and in beautiful preservation. The finds have strong analogies to material from the Pacific coast of Guatemala. The American Museum of Natural History has had an exploratory expedition in northwestern Mexico with the hope of clarifying the knotty problem of interrelationship between Mexico and southwestern areas of the United States.

#### GUATEMALA

The University Museum of the University of Pennsylvania had its eighth season of work at Piedras Nigras, Guatemala, aided by a grant from the American Philological Society, and under the direction of Lin-

ton Satterthwaite, Jr. Activity was concentrated upon the mound known as Structure K-5. Among other interesting results it now becomes apparent that the famous Piedras Nigras "lintels" were actually panel sculptures intended to be set upright on platform stairways. Dr. Mary Butler was also active in Guatemala, working on the ceramics of the Department of Alta Vera Paz, under a Penrose Fund grant. A mound at Cobán was the center of her attention, and three important ceramic periods were distinguished, the earliest of which shows relationship with Mayan "archaic" culture.

#### UNITED STATES

**New Mexico.**—In the United States itself, there has been an unusual amount of activity, due to the possibility of financial assistance from the WPA and the NYA. More or less complete reports on the multitudinous sites which have been worked or re-worked can best be found in current issues of *American Antiquity*. The School of American Research of Santa Fé, together with the Museum of New Mexico, has been as usual active in a number of projects. Among those of first-rate interest is the Guatemalan expedition, which has found at Tajumulco, San Marcos, 21 tombs containing rich finds, as well as isolated sculptures of classic Mayan and Aztec (Pipil) affinities. They have also restored the old Lincoln Court House in New Mexico, which was intimately associated with that famous American, Billy the Kid. The mission at Pecos, one of five in New Mexico, is being systematized by the Museum and University of New Mexico, with aid from the CCC and the NYA. The University of New Mexico also conducted its annual Field Schools at Jemez and Chaco canyons.

**Texas.**—The La Junta expedition has found near Presidio a new Texan culture which appears to be a mixture of Palins and Southwest influences. At Antelope Creek in the Panhandle, an expedition under the leadership of Floyd V. Studer of the Panhandle-Plains Historical Society

and of the West Texas State Teachers College has found several villages containing sizable houses of several stories. The absence of outer windows and the presence of internal air-ducts have led Mr. Studer to propose the existence of a primitive sort of air-conditioning system in these pre-Conquest houses.

**Arizona.**—A state-wide survey of archaeological material is being made with the aid of grants from the WPA and sponsoring institutions, namely, the University of Arizona, the Museum of Northern Arizona, the City of Phoenix-Pueblo Grande Laboratory, and the City of Globe-Gila Pueblo. The work is of the most comprehensive sort, and there are now at least four major projects under way, with emphasis upon the problems of Hohokam and Mogollon cultures. The Mogollon culture is also undergoing extensive investigation in an unusual example of institutional cooperation involving a Field Museum expedition under Paul Martin, an Arizona State Museum expedition under Emil Haury, and the Logan Museum (Benoit, Wis.) expedition under Paul H. Nesbitt. The publication of the results of these related digs is eagerly awaited by Americanists.

**Colorado.**—The famed Saguach Cave, on the Western Slope, is being excavated by C. P. Hurst of Western State College. A fine Basket-maker site has been uncovered which yielded, among other things, a full atlatl shaft with the point still attached. Earl Morris is also investigating a Basket-maker site near Durango for the Carnegie Institution. At Awatovi, J. O. Brew is working on Basket-maker culture for the Peabody. In the Platte River system, E. B. Renaud of Denver University has found an interesting series of flints of the "Clactonian" type, which are reported to "out-Clacton those of Clacton-by-the-Sea." The "Folsom-man" site outside of Fort Collins continues to be worked, but a rather disappointing season was had this year. The Colorado Museum of Natural History has dug a possible Fremont culture site in Utah, where an interesting unde-



## PAINTING

formed mesocephalic female and child has been found.

**Kentucky.**—The University of Kentucky is engaged in re-excavating the famous Indian Knoll in Ohio. An Adena mound has also been investigated, and found to contain 19 log tombs.

**New York.**—Vassar College is starting a five-year archaeological survey of the Hudson Valley under a grant from the Carnegie Corporation. Dr. Mary Butler is in charge, and her aim is to make Vassar College a clearing-house for information about the area.

## NECROLOGY

Several distinguished scholars have died this year, including Dr. Tenney Frank of Johns Hopkins University (1876–1939), who will long be remembered as a trail-blazer in Roman archaeology; Dr. Nathaniel Schmidt of Cornell University (1862–1939), famed for his studies in Biblical archaeology; and Warren King Moorehead (1866–1939), who was of such great importance in the development of American archaeology, both before and during his directorship of the department of archaeology at Phillips Academy, Andover, Mass.

## PAINTING

BY FLORENCE SEVILLE BERRYMAN

THE AMERICAN FEDERATION OF ARTS

### THE WORLD'S FAIRS AND ART

The World's Fair in New York City and the Golden Gate Exposition in San Francisco were in the foreground of American painting during 1939 despite the greater importance of the Government's continuing support of art and the untiring efforts of museums, dealers, art associations, and individuals throughout the United States to further the interests of American artists.

Although essentially and necessarily commercial, the New York Fair was involved with art from the outset, as will be recalled from previous reviews of painting in *THE AMERICAN YEAR BOOK*. Of the mural paintings at the Fair, 105 (the work of 38 mural painters) had been commissioned by the Fair's Board of Design, which also passed on the designs (preliminary and final) of each of the numerous privately commissioned murals, for business and industry. Some of the murals were outstanding works of art, but many were adjudged failures, and a number of critics were of the opinion that the interference of trades unions may have been partially responsible. Murals by Henry Billings, Carlo Ciampaglia, Witold Gordon (mural depicting food as a source of energy and health), and Hildreth

Meiere were among the artists especially praised.

### EXHIBITIONS AT NEW YORK FAIR

**"American Art Today."**—Two large exhibitions, chiefly of paintings, and many smaller shows within the Fair grounds, comprehensively covered the field. "American Art To-day," said to be the most democratically selected exhibition ever assembled, was of greatest interest to contemporary painters throughout the United States, who had been invited to submit work to their respective regional juries (86 in all). Out of approximately 25,000 works (paintings, sculpture and graphic arts) examined by 500 jurors who were professional artists (conservatives as well as moderns included), 3,000 entries were sent to New York City for final winnowing by a Committee of Selection. Of 1,214 works comprising "American Art Today," 546 were paintings, mostly oils. Despite these extensive preparations, the exhibition was not entirely successful, in many critical opinions; the absence of many artists of established reputations was among the complaints voiced. The Fair Corporation set aside a sum equal to five per cent of the receipts from admis-



sions to "American Art Today" to provide a fund to purchase, at the close of the Fair, prominent works from this exhibition which will be donated to museums and other organizations maintaining art galleries free to the public.

**"Masterpieces of Art."**—The "Masterpieces of Art" Exhibition arranged by a private group, Art Associates, Inc. headed by Dr. Alexander Hamilton Rice and operated as a concession, was more successful from the critical and popular viewpoints. This great show, admirably arranged in 25 galleries of a functional building, comprised 432 works, of which 413 were paintings. It illustrated the important epochs of European art from the Middle Ages to 1800 in Italy, France, Spain, Flanders, Holland, Germany, and England. Valued at \$30,000,000 the exhibition was assembled largely from American collections, public and private; 40 paintings came from museums and private collectors abroad, including the National Gallery of Victoria and Melbourne, Australia; Rijks Museum, Amsterdam (6 canvases); the Louvre, and London's National Gallery. Excepting the Louvre, these museums were said to be making their first loans to the United States. A total of nearly 150 lenders made this exhibition possible. The Bache Collection, New York City, was one of the largest lenders, contributing 32 works. At the end of the first month, attendance records revealed that almost twice as many visitors entered the hall of old masters as those who viewed the contemporary American show.

**I.B.M.C. Contemporary Art.**—International Business Machines Corporation also had a large exhibition of contemporary painting in 79 countries (one work from each, selected by a local authority). The Corporation had a similar exhibition also at the Golden Gate Fair, and Thomas J. Watson, president of I.B.M.C., distributed prizes of \$2,400 at each exhibition to 10 painters. In New York, an Irish painter won top prize; in San Francisco, a painter from Portugal was first.

**French Exhibit.**—Nearly all of the

foreign nations represented at the New York World's Fair, brought exhibitions of paintings or mural painters to decorate their pavilions, or both. The three principal exhibitions were at the British, French and Italian pavilions. In the French Government building, there were several superb displays of French art. Paintings from the Louvre, valued at \$500,000 were part of the decoration of 11 magnificent period rooms covering five centuries. These Louvre loans had barely escaped destruction in the burning of the S.S. *Paris* at the Havre dock in April, presumably by foreign arsonists. The French pavilion also had a large exhibition of recent and contemporary French painting, generally considered the best of this type of show in any foreign building at the New York Fair.

**British, Italian and Others.**—Great Britain was next best with an exhibition of contemporary painting, surprisingly modern in character. The Italian building had an official show of 100 canvases, markedly conservative. Other foreign exhibits included Australia (with murals of Australian landscape), Brazil (40 works in painting and sculpture), Chile, Finland, Greece, Iceland (a large show of contemporary paintings, most of which are now being circulated throughout the United States by The American Federation of Arts), Ireland (two large murals), Japan (20 contemporary paintings), the Netherlands, Peru, Poland (56 paintings, also a group of works by St. Luke's Fraternity, each painting being the joint work of 11 members), Rumania (70 paintings); Switzerland (paintings from Swiss museums), Union of Soviet Socialist Republics (contemporary paintings, many executed especially for the New York Fair show). Loyalist Spain had planned a Spanish pavilion and had withdrawn one of her greatest painters from the fighting ranks, Luis Quintanilla, and had sent him to the Fair to decorate the building. But before the work was completed, the Loyalist cause collapsed, nearly all of Señor Quintanilla's life work had been destroyed by bombs, and he was not allowed to return to

Spain. He is residing in the United States, and in November held a one-man show of his work in New York, including the five large frescoes done for the ill-fated Spanish pavilion.

## GOLDEN GATE EXPOSITION

**General.**—"The Pageant of the Pacific," Golden Gate International Exposition set forth on man-made Treasure Island to celebrate the completion of Golden Gate Bridge across San Francisco Bay, joining Oakland and San Francisco, was only one-third the size of the New York World's Fair and was produced at a proportionate cost. But the Golden Gate Exposition indubitably surpassed that of New York with regard to art exhibitions presented, both old master and contemporary.

**Italian Masterpieces.**—Treasure Island's Palace of Fine Arts (destined to be a hangar for trans-Pacific clippers) housed what was called "the greatest art exhibition ever held in the United States." Dr. Walter Heil, director of the M. H. De Young Memorial Museum, San Francisco, brought the old master exhibition to America. The San Francisco Fair's European representative, Dr. Rudolph Heinemann, director of the Art Museum of Lugano, Switzerland, negotiated a loan from the Italian Government of a collection of 30 paintings and 10 pieces of sculpture never before seen in the United States, and never to be seen here again, for a law recently passed in Italy prohibits the loan of Italian masterpieces abroad. These masterpieces of the Italian Renaissance included such world-famous paintings as Botticelli's "Birth of Venus" from the Uffizi, Raphael's "Madonna of the Chair," (Pitti), Andrea Mantegna's "St. George" (Royal Gallery of Venice), "St. Augustine Healing the Plague-Stricken" by Tintoretto (Municipal Museum, Vicenza), Fra Angelico's "Christening of St. John" (San Marco), Giovanni Bellini's "Madonna and Child with St. John and St. Catherine" (Venice Academy), Titian's portrait of Pope Paul III (National Museum of Naples), Correggio's "Madonna and Child" (Royal Estense

Gallery, Modena), and a portrait of a lady by Bronzino (Royal Gallery, Turin).

**"Five Hundred Years of Old Masters."**—In addition to these priceless works which made an 8,000-mile trip from Italy, the exhibition of "Five Hundred Years of Old Masters" also boasted loans from national galleries of France, Belgium, Holland, Spain, and Great Britain, as well as European private collectors. From the Louvre came Millet's "Gleaners" and Vigée Le Brun's popular self portrait with her daughter, as well as superb examples by Poussin, Degas, and others. London's National Gallery lent Turner's "Burial at Sea" and a Constable landscape. Haarlem's Frans Hals Museum sent two portraits by that master. From Brussels Museum came Hugo van der Goes' "Virgin and St. Anne" and Memling's "Martyrdom of St. Sebastian." Fourteen paintings by van Gogh were lent by his nephew, V. W. van Gogh, 12 of which were never before seen in the United States.

The public repaid the San Francisco Fair authorities by making the old master exhibition the greatest box-office hit in the history of art displays. The net paid total of 1,563,785 visitors more than doubled the combined attendance of the New York Fair's old master and contemporary exhibitions (732,000), yet paid admissions to the New York Exposition grounds totaled three times those of San Francisco's. The Golden Gate old master exhibition even surpassed the record-breaking Century of Progress show at the Art Institute of Chicago in 1933 by more than 25,000.

**Contemporary Art.**—San Francisco's contemporary American art exhibition of painting and sculpture (nearly 400 works of which only 35 were sculpture) furnished an interesting parallel to New York's, as it was the selection of one man, Roland McKinney (director of the Los Angeles Museum). Critical opinion generally conceded that he had assembled a better show than 400 jurors had picked for New York. He had included all phases, from traditional work by members of the academy, to

## XXVI. THE ARTS

non-objective art, and the quality of the individual exhibits was high; furthermore, over two-thirds of them were "fresh," many having been executed expressly for this exhibition. Mr. McKinney had, in addition, selected a small but choice "Yardstick Exhibition of Historical American Paintings," ranging in 26 canvasses from Smibert to Bellows.

The Palace of Fine Arts housed other exhibitions of paintings, among them one of contemporary European work, dominated by the art of France, among the 12 European nations represented. Contemporary Canadian painters occupied an entire gallery, Australia was also represented, and Mexico contributed 24 canvases by 20 painters. The Pacific Cultures exhibition (assembled by Dr. Langdon Warner) included excellent groups of paintings by Chinese and Japanese artists.

**Murals.**—California artists were the decorators of the Golden Gate Exposition; the largest mural was painted by artists of the Federal Art Project from sketches by Herman Volz. Others included murals by John T. Stoll in the Court of Seven Seas, six by Armin Hansen, six by Millard Sheets in the Court of Flowers, Hugo Ballin's "Four Winds" (fresco, 45 feet high and 10 wide), Irwin D. Hoffman's six panels in the Hall of Mines, not to mention all.

**Awards and Prizes.**—The Golden Gate Exposition also broke records in extent of awards made in July when 22 prizes carrying \$12,650 were awarded in three divisions of the contemporary art exhibition: unrestricted, foreign and American, a total of 800 paintings and 60 sculptures. Ten prizes and \$4,600 were bestowed upon Americans.

### TREASURY DEPARTMENT SECTION OF FINE ART

The United States Government's extensive patronage of American artists continued during 1939. Between July 1, 1938 (the latest date reported in last year's review of Painting) and Jan. 30, 1939, 110 commissions for the Treasury Department's Section of Painting and Sculpture were com-

pleted and installed in 38 states and the District of Columbia. Ninety-six of these were murals, consisting in not a few cases, of more than one panel.

Much admired were Henry E. Schnakenberg's monumental murals placed in the Amsterdam, N.Y. Post Office, depicting Sir William Johnson conferring with the Iroquois (early 18th century); and a packet boat on the old Erie Canal.

Albert T. Reid's mural "Romance of the Mails—In the Old Cattle Country" done for the Post Office of Sulphur, Okla., was enthusiastically received by public and critics.

On the other hand, Ben Shahn's mural for the new Bronx Post Office, New York, was denounced before completion by Rev. Ignatius W. Cox of Fordham University as "an insult to all religious-minded men and to Christianity." A few other murals ran into difficulties with local authorities.

The important competition sponsored by the Section of Fine Arts, for a mural for the St. Louis Post Office, was won by two Chicago artists, Edward Millman and Mitchell Siporin. The commission award was worth \$29,000. This competition was national and received entries from 215 artists. Designs of 37 runners-up were so good that each of them was invited to execute a mural for a Federal building; 23 buildings ready for decoration were assigned; the other painters will get later commissions.

In June, the Treasury Department held the 48-States Competition, in which artists were eligible to submit designs for decoration for post offices in every state in the Union; at its close in October, more than 1,470 designs had been sent to Washington; 74 were selected as prize winners and runners-up for final commissions and \$38,000 prize money. These winning designs were shown in a large exhibition at the Corcoran Gallery of Art, Washington, in November.

The Section of Fine Arts of the Public Buildings Administration, Federal Works Agency (formerly under the jurisdiction of the Treasury Department) reports for the calendar



## PAINTING

year 1939 the completion of 215 artists' contracts for mural decorations and 48 for sculpture, involving an expenditure of \$314,915 for both groups.

The widespread distributions of commissions is strikingly illustrated in this report. The completed projects (some of which involved several paintings and sculptures each) are the work of 252 different artists and are located in post offices and other Federal buildings in 247 different cities and towns in 44 states and the District of Columbia. Eleven artists had two projects each. Texas received the largest number, 20 completed projects (19 mural). New York had 15, Pennsylvania 13, New Jersey and Illinois 12 each.

This report, which is typical of previous annual compilations, confirms the impression that the Government's art projects are doing more to decentralize art production and artists' opportunities than any other single factor.

### FEDERAL ART PROJECT

The United States Government's Federal Art Project, which is administered by the Works Progress Administration, and emphasizes relief, has had since its inception a more controversial career than the Treasury Department Art Projects. The year 1939 was no exception. In February President Roosevelt made an emergency request of Congress to restore the sum of \$150,000,000, pared earlier, to the W.P.A. appropriation. Friends of the Federal Art Project, a citizens' committee, formulated plans to protect the Project's future, including principles for a long-range program, to make the Project non-political, non-factional, divorced from relief *per se*, careful to eliminate incompetents, and "to educate official ignorance and avoid bureaucratic intolerance and academic degeneration."

During the summer, however, a drastic change took place in the Federal Art Project by Congressional mandate. On Aug. 31, all artists who had been employed on the Project for 18 months were automatically dropped; at the end of 30 days, if

these same artists were again certified as in need of relief, they became eligible for re-employment, by which time control of the Project would have passed to local administrators. Further restriction is seen in the fact that, by Jan. 1, 1940, one quarter of the financial responsibility of every W.P.A. project must be assumed by local sponsors. The change in make-up of the Federal Art Project can be gauged by the fact that, in New York City alone, 75 per cent of the artists on the Federal Art Project had been employed 18 months or longer. There was considerable picketing by artists in protest against dismissals.

According to an October announcement of W.P.A., the Federal Art Projects had obtained local sponsorship which assured their continuation at 90 per cent of their former levels. The theatre project was dead, however, and not a few informed commentators were convinced Communist activities had killed it.

The Federal Art Project had troubles in other fields than political, an example being the controversy over murals painted by a Project artist, Jared French, for the New York State Vocational Institution, West Coxsackie, N.Y. These seven panels were exhibited in January, before installation, at a New York City gallery. Emily Genauer, critic of the *New York World-Telegram*, declared the paintings "anything but masterful." Other critics defended them; they were reproduced in the press, and two artists who were readers of *The Art Digest*, one in New York, the other in California, simultaneously recalled having seen an obvious source of several figures in the murals, in a French book, *Nouvelle Anatomie Artistique* by Dr. Paul Richer (1921). Publication of the drawings and the murals was startling; and it was announced by officials on the Project that they would "probably not be installed" in the institution for which they were intended.

### KRESS GIFT TO THE NATION

The United States received another great gift of art when Samuel H. Kress, chain store magnate, informed



the President on July 1, 1939 of his decision to present to the American people his magnificent collection of Italian paintings and sculpture, one of the finest of its kind, and estimated at a value between \$25,000,000 and \$30,000,000. It will be housed in the National Gallery of Art, now being built for the Mellon Collection. The Kress Collection includes 375 paintings, representing practically all of the important painters of the Italian school, from the 13th to 18th centuries. Said to be the greatest private holding of Italian art in the world, the collection contains examples by such masters as Duccio, Giotto, Martini, Sassetta, Fra Angelico, Masolino, Perugino, Filippo Lippi, di Cosimo, Ghirlandaio, Mantegna, Giovanni Bellini, Giorgione, Titian, Tintoretto, and Veronese.

#### EXHIBITIONS

**General.**—Only a few of the thousands of exhibitions of painting held each year in the United States can be mentioned, despite the invidiousness of such selection. An interesting feature of 1939 was the fact that all of New York City's important museums displayed exhibitions offered specifically as additional attractions running simultaneously with the New York World's Fair, and that practically all of the dealers' galleries which close during summer remained open with special offerings.

**The Metropolitan Museum of Art** presented "Life in America," nearly 300 paintings covering three centuries 1616-1916, and recording persons, episodes and scenes important in American history from Colonial times to the beginning of the World War.

**The Museum of Modern Art** inaugurated the opening of its new \$2,000,000 functional building with a large exhibition "Art in Our Time" with exhibits in many media, besides many types of paintings.

**The Riverside Museum** held the largest single exhibition of contemporary Latin-American art yet shown in the United States. It was sponsored by the U. S. World's Fair Commission. Nine nations accepting the invitation were Argentina, Brazil,

Chile, Cuba, Dominican Republic, Ecuador, Guatemala, Mexico, and Paraguay. More than 180 artists were represented with 334 oil paintings and other works.

**The National Academy of Design** had a special survey of work from 1826, the beginning of the Academy, to the present, thus offering excellent work in the conservative tradition, not represented at the New York Fair.

**The Grand Central Galleries** featured an exhibition of "Art Without Isms."

**The New York Historical Society Museum** reopened with a new building in April, to display to advantage its remarkable collection of early American paintings and other Americana. In seven months, the Society had received 50,000 visitors.

**The American Academy of Arts and Letters** honored two great painter members, Abbey and Hassam, with memorial exhibitions, and also had another show by past and present members.

**The 1939 Carnegie International** was not affected by the war, since nearly all of the 243 paintings from Europe had reached Pittsburgh by the end of August. Only five nations competed, Great Britain, France, Germany, and Italy, and the United States; but there was as a new feature a group of 26 paintings by European artists forced to work outside their native lands; and finally, a one-man show of 21 paintings by André Derain. Of 348 paintings, 105 were by Americans, who won five of the eight awards, including the coveted first prize of \$1,000 which went to Alexander Brook. Homer Saint-Gaudens announced that this would be the last International until the end of the present European war. Foreign exhibits will be stored in this country.

**The St. Louis City Art Museum's** 33rd annual of American paintings was the largest it has ever presented—91 canvases by as many painters.

**Pennsylvania Academy of Fine Arts.**—The 134th annual of the Pennsylvania Academy of Fine Arts had 320 American paintings and sculpture,

and the exhibit was considered unusually good.

**The Toledo Museum's 26th annual** of 78 paintings, all loans, in July and August stressed "pure painting" and stated in the catalogue that "nearly all the proven painters were represented and a number of new men as well." This was in contrast to the large inclusive shows at each end of the Continent.

**The Milwaukee Art Institute's annual Wisconsin Painters and Sculptors** exhibition during the summer, was enlivened by inclusion of a painting assailed by Milwaukee Catholics, which was then withdrawn, and the withdrawal caused the Institute to be assailed by the local C.I.O. United Office and Professional Workers. Rehung, the painting again drew fire from the Catholics, and at the end of the show, the unhappy Institute formulated a policy to protect itself from any similar dissension.

**Art Institute of Chicago.**—"A Half Century of American Art" was the title of an exhibition at the Art Institute of Chicago, which founded in 1888 the United States' third annual exhibition for American artists. Assembled from 13,257 paintings and about a quarter as many sculptures shown in earlier annuals, the 1939 exhibition contained 181 oil paintings and 46 sculptures.

**The Whitney Museum.**—A number of exhibitions celebrated the opening of new buildings of wings, such as *The Whitney Museum*, New York City, which reopened in October after extensive alteration of the building, with an exhibition of nearly 300 items from its permanent collection entitled "20th Century Artists."

**The Portland (Oregon) Museum** inaugurated its new \$200,000 Hirsch Wing with an exhibition of 103 contemporary paintings by foreign and American artists.

**Corcoran Gallery of Art, Washington, D.C.**—The Sixteenth Biennial, March to May, seemed to be markedly liberal in character and remarkably good, which was surprising, as it had been assembled in competition with the two World's Fairs' contemporary exhibitions.

Three hundred and sixty-nine paintings by 358 artists were hung.

**Old Master Exhibitions.**—Conspicuous among old-master exhibitions were the Worcester-Philadelphia International Loan Exhibition of Flemish Painting, and "the most important exhibition in America of Dutch 17th century painting since the Hudson-Fulton celebration in New York in 1909" which was held at the Museum of the Rhode Island School of Design, Providence. The latter was held during January, under patronage of the Dutch Government; 66 paintings included five Rembrandts, and had loans from collections in this country and abroad, more than half coming from Europe. In February, 17th century Dutch masterpieces were shown at the Schaeffer Galleries, New York City, and at the same time, the Detroit Institute of Arts had an important exhibition from the Lowlands. The exhibition of Flemish Painting was made possible by a year's collaboration of the Worcester (Mass.) Museum, the Johnson Collection, Philadelphia, and the Government of Belgium. It presented a complete panorama of Flemish art from Jan van Eyck to Rubens, in 132 paintings, dated 1420 to 1650. Worcester had it for February and March, after which it was shown in Philadelphia. Besides many American loans, there were 12 from the Belgian Government and 30 from public and private collections in Belgium. It set a new attendance record in Worcester, being viewed by 64,400 persons in 18 days.

**Exhibits Built Around Ideas.**—Among the exhibitions built around ideas, may be mentioned the Knoedler Galleries' (N.Y.C.) exhibition of views of Paris during January and including more than 40 paintings by 30 artists from the 17th century to today; the same Galleries' "Classics of the Nude," 30 paintings and drawings from Pollaiuolo to Picasso in April; and the exhibition at the end of 1939 at the Toledo Museum of Art, of paintings by "artists unappreciated in their day" who are now acknowledged masters, including Rembrandt, Vermeer, Millet,

Corot, the Impressionists and Post-Impressionists.

**Memorials.**—Many memorial exhibitions of American painters were held. Of more than ordinary interest were those of 100 paintings (and 40 drawings) by the late William Glackens at the Whitney Museum, New York, until mid-January, 1939; 40 paintings by Robert Henri from 1899 to 1928, shown at Grand Central Galleries, Fifth Avenue, New York, in January; paintings by William Harnett, famous 19th century American who sank into oblivion and has been resurrected by the Downtown Gallery, New York, where the exhibition was held in April and May; and a combination show of more than 60 paintings by Thomas Eakins at the Babcock and Kleemann Galleries, New York.

**One-Man Shows.**—Living artists were also honored with one-man shows, outstanding being the 30-year retrospective given Charles Sheeler at the Museum of Modern Art, New York, during October (only four others living have been previously thus honored by this Museum); three simultaneous one-man exhibitions of work by Louis Eilshemius, at the Boyer, Kleemann and Valentine Galleries, New York, in October. This 75-year-old American painter, whose genius was very tardily recognized, was also the subject of a biography published the same month. Finally, Pablo Picasso's colossal one-man show opened at the Museum of Modern Art in November and is still current; it will go to the Art Institute of Chicago in February. Nearly 400 paintings, prints and other items review the artist for 40 years. Included is the enormous mural "Guernica," subject of much discussion, which was exhibited alone in New York in May and thence traveled to other cities.

#### MUSEUM PURCHASES OF AMERICAN PAINTING

American museums were substantial patrons of American painters, not only exhibiting but purchasing their work. The Metropolitan Museum of Art before May 1, bought 14 works by living Americans through the

Hearn Fund; and during the summer made its largest single purchase of contemporary art in its history—20 paintings in oil and water color. The Pennsylvania Academy of the Fine Arts bought from its 134th annual, 13 oils. The Virginia Museum made four purchases from its 7th annual. Buffalo's Albright Art Gallery established a Room of Contemporary Art in January and purchased five canvases. The University of Nebraska bought five paintings in April to add to its collection of American art started a decade ago. The Museum of Modern Art, New York, purchased nine paintings from the New York World's Fair contemporary show within one day of its opening. The Wichita Museum of Art purchased eight American paintings in the autumn, to be nucleus of a continually growing American collection.

#### MUSEUM ACCESSIONS: GIFTS, BEQUESTS, AND PURCHASES

American museums continued to enlarge their collections through several traditional methods. The Metropolitan Museum of Art, empowered by the will of the late Col. Jacob Ruppert to choose whatever was desired from his art collection, took eight paintings among other objects, the majority examples of the British school, 18th century. The Frick Collection, New York, made a most noteworthy acquisition of a panel, "Resurrection of Christ" by Andrea del Castagno, painted about 1450. The Boston Museum of Fine Arts acquired "Madonna and Child" by Lorenzetti, said to be "the most important 14th century painting to come to any museum in some years"; also a splendid portrait of his first wife by Rubens, and an outstanding example of Canaletto's work, "Bacino di San Marco" from Castle Howard, Yorkshire, England. The Rochester Memorial Art Gallery acquired an important El Greco, "Apparition of the Virgin to St. Dominic." The Cleveland Museum of Art received as a gift Watteau's "Dance in a Garden Pavilion" once owned by Frederick the Great, which had cost the donor,



## PAINTING

Louis D. Beaumont, \$110,000. The Toledo Museum received as a bequest Delacroix's "Return of Columbus," important in view of comparative scarcity of works by Delacroix in the United States. The Detroit Institute of Arts received from Mr. and Mrs. Edsel B. Ford the first important early work by Giovanni Battista Tiepolo to come to this country: "Madonna and Child with Adoring Figure." The Nelson Gallery, Kansas City, acquired an early 14th century "Apostle St. John" by Bernardo Daddi. A collection of 50 paintings by old masters, including Rembrandt, El Greco, and Poussin, was presented to the University of California from the Willits J. Dole estate. The Los Angeles Museum received a collection of American 19th century paintings estimated to be worth \$250,000, as a bequest of the late Mary D. Keeler. The San Diego Fine Arts Gallery received from anonymous friends Goya's portrait of the Marques de Sofraga and Jerome Bosch's "Christ Taken Captive," "the most important acquisition in the Gallery's 13 years of existence"; it also purchased a well-authenticated self-portrait of Rembrandt as a young man.

### INTERNATIONAL

The U. S. Department of State through its Division of Cultural Relations, called a Conference to obtain authoritative opinion concerning the most effective means of improving Latin-American relations through the fine arts. Representatives of art organizations and institutions attended a two-day session in Washington in October, heard more than 20 speakers, and adopted a recommendation of proposals for exchange of students, professors, artists and art exhibitions.

American collectors and museums lent 10 paintings to the Leonardo da Vinci Exhibition at Milan, Italy, May

through September. The Cleveland Museum lent one painting to each of two important foreign shows: Venice's Paolo Veronese survey and Bruges' Memling exhibition, during the summer. The Musee du Jeu de Paume, Paris, purchased Alexander Hogue's "Drought Survivors" and acquired by gift from Arthur F. Egner, president of the Newark Museum, Joseph Stella's "American Landscape."

### AUCTION SALES

In December, 1938, part of the William Randolph Hearst "Art Empire" was put on view at Parish-Watson, New York City, for a self-perpetuating exhibition. The Hearst Collection contains more than 15,000 items, in 504 categories, including some superb paintings.

High prices paid for paintings during the year included \$30,000 paid for a Gilbert Stuart portrait of Commodore Barry at the Barry Sale, American Art Association Anderson Galleries, New York, in January. At the same Gallery in April, two paintings fetched prices which are records for recent years: Memling's "Descent from the Cross" for \$83,000; and Raphael's "Madonna of the Pinks," \$60,000.

The Parke-Bernet Galleries, New York, announced results in June, of auction sales during the season 1938-39: high prices during the season for paintings included "Portrait of a Scholar" by Frans Hals, for \$11,000; Rubens' "Holy Family with a Dove" for \$12,000; Sir Joshua Reynolds' portrait of Lady Frances Warren for \$10,500; and a painting of Wall Street in 1820 by an unknown artist fetched \$13,500.

A new record for a Whistler painting sold at auction in England was hung up at Christie's, London in the summer when "At the Piano" was purchased for £6,405.



## SCULPTURE

BY ROSE V. S. BERRY

ART CRITIC AND WRITER

**INFLUENCE OF THE WORLD'S FAIRS**

The 1939 story of sculpture in America is unlikely ever to be repeated. A long-planned previous endeavor underlies all that the year gave to the American public. Millions of Americans visited two great expositions: The World's Fair in New York City and the Golden Gate International Exposition in San Francisco. It is foreordained that such enormous projects will leave their imprint upon a country for years to come. Such events have done more for American art than any other one thing. In most unexpected ways these expositions will certainly influence American sculpture. The New York Fair allied monumental sculpture with a modernistic, utilitarian type of architecture of to-morrow. The San Francisco Fair, with a recognition of local talent, gave its decorative sculpture to resident artists; consequently, strong individuality was missing, since the general sympathy of the group seems to lie in a similar direction. They, in their performance, clung to the architectural unit, which in turn was literally glorified by gorgeously planted gardens and courts. The whole, bearing out the idea of a great oriental palace, became an architectural jewel in the superb lighting seen for the first time even by the scientists.

In spirit the expositions were far apart. The European war did something to each of the great shows. The art, and sculpture especially since it had gone farther into an exciting change, held the visitor in serious contemplation as he looked upon the classical-moderns, the violent protesters, the apostles of the ugly, the stylists, and the ultra-innovators. Such names as Despiau, Maillol, Wildt, and Nadelman; Gaudier-Brzeska, Epstein, Barlach, Rodin's later work, Lehmbruck, Soudbinin,

and Zadkine, would fill the second and third categories. Mestrovic, Archipenko, Alfeo Faggi are rather consistently stylists. Henry Moore, Hans Arp, Henri Laurens, Brancusi, and the young American Alexander Calder, are innovators with distinctive individuality. In the larger collection of modern sculptures at the New York exhibition and the 40 or 50 examples of the western exhibit, these tendencies were outstanding.

**ITALIAN LOANS AT GOLDEN GATE**

Opposing these sculptural themes in the West, was some of the work of the great Renaissance masters, treasures most generously loaned by Italy. The famous Italian sculptors were not just great men of their time, they were great leaders in the establishment of sculpture and its ideals. It was really a teacher-pupil sequence, a succession of thinkers who were instrumental in separating sculpture from architecture. Italy sent the new world something over which to ponder in these sculptors of the Renaissance. Donatello (1386-1466), was contemporary with Lorenzo Ghiberti, who had made of the doors of the Baptistry things so beautiful that Michelangelo said they could well be the Gates of Paradise. But, the bronze panels were treated pictorially, with soft, blurred edges and linear and aerial perspective. They were paintings in bronze, so lovely that no one missed the absence of color. It was the last possible step in sculpture toward painting. What was to come after would have to be feeble imitation. Donatello accepted the challenge. He returned to sculpture-in-the-round, a thing utterly lost to the art, if the pictorial bas-reliefs were to continue. Donatello insisted upon the sculptor accepting the limitations of the art, that he do in marble and bronze what the painter

could not do in color and upon the canvas. Donatello returned to naturalism, really, to a homely realism. In this direction he was followed by Pollaiuolo, who dared a certain exaggeration in muscular rhythmical repetition, and developed in the way that would be expected of the artist who had built his modeling upon a knowledge of the human body gained in the dissecting room. Verrocchio, also influenced by Donatello, launched forth in a manner of greater refinement than that of his confreres, but, which was the very essence of Renaissance finish, exquisite craftsmanship, with a living element that was Italian and not Greek, though born of what were taken as Greek ideals. Several examples of Della Robbian glazed bas-reliefs gave the bent once more of that which was exceedingly pleasant combined with excellent craftsmanship. The eternal gratitude of the American people, however, goes out to Italy, for the loan of Michelangelo's plaque, the Madonna and Child, done when he was in his early twenties, and which, when at home, hangs upon the walls of the Bargello, in Florence. In that matchless thing, it seemed that Michelangelo made marble do all that stone can do, and taught the world a lesson to be remembered—the beauty of simple homeliness.

#### AMERICAN INDIAN SCULPTURE, CARVINGS, MASKS

The Indian exhibit assembled by Rene d'Harnoncourt, international authority upon primitive and prehistoric art, together with Frederic H. Douglas, from the Denver Art Museum, was the outstanding Federal exhibit, partly because it was so unexpected. No authority has thought to assign the American Indian a place among primitive sculptors. Through this exhibition of small ivory figurines, animals, tools, and fetishes, something of the delicacy of their carving was made manifest. The carved masks of the Northwest, the woodlands, and the plains Indians, are held by critics to be among the finest of their kind. Many of these masks are carved with extraordinary

skill and some of them are definitely portraits. There are several kinds of Indian masks: the mask proper, the maskette, the maskoid, and the masks that are too large and too heavy to be worn. The latter are hung from the walls, or used to support beams of the kashim, the ceremonial hut. Since most of the dances and formal ceremonials take place at night, these face-screens are effective in the extreme.

The mask proper is carved of wood and perforated at the eyes, nose, and often at the mouth, so that the wearer may breathe and see. There are usually thongs, or strings for tying the mask about the head, and if the eyes, tongue, chin, or lips move, the appliances, again strings, will be pulled with the teeth. The maskette is a head-dress shaped to the curve of the forehead and worn above the eyebrows with fur appendages hanging over the shoulders, leaving the wearer's face to take the place of a mask. The craftsmanship of these head-dresses is incredible, considering the Indian's tools, which are often crude; until the coming of the white man they were jadite, flint, and even walrus teeth. The wood takes on a warm mahogany red with mother-of-pearl insets of equal size all around the rim of the head ornament. The maskoid is smaller than the mask and never perforated; it is truly the work of art and is often of metal or ivory. Too much can scarcely be said in praise of these masks, some of which are actually puppet-shows in that there are masks within masks, when one or two faces as winged doors will open to reveal another face, and that face in turn may open to show the real mask which may have a delicacy of modeling much superior to the outer faces because of the shallowness of the planes. The Indian masks are less the fetish than the god or spirit. They are worn in ceremonials wherever they are made, and are thus a living expression of the New World primitive man. In this way they differ from the Negro, Sudanese, the Ivory Coast masks of Africa, with which the world has become acquainted in recent years.

**PACIFIC COAST PRIMITIVE ART**

While the Indian exhibit was one of the high lights of the art departments, there was yet another that transcended all else, because it had never been done or seen before, and because it opened a new world to thousands upon thousands of art lovers. This exhibition was the first comparative study of the people's art who dwell on the Pacific Ocean rim. Dr. Langdon Warner, loaned to the Golden Gate International Exposition by Harvard University, spent several years in assembling the amazing show. The primitive art, much of it sculpture, was classified in racial units, and also in one large gallery where, in a devastating glance, the visitor might stand awed in the presence of Peruvian, Central American, and Mayan sculpture; might marvel at the art of the South Sea Islanders, at the extraordinary carving of the New Zealand Maories, the Australian Bushmen, the Siberian and Alaskan Eskimos, and the American Indians of the Northwest. Forcefully rugged, unhampered by classical tradition, balanced with masses, sharpened with line, and defiant with ugliness, this sculpture left an indelible impression upon all who saw it. It was tempered and held in leash, in as much as it could be, by the sophisticated expressions of Cambodia, India, China, and Japan. This wonderful show did two things: it made manifest the worthiness of the output of this primitive sculptor, who in a few more decades will have passed from his remoteness, since the world is growing so small and his outposts of civilization will have become stations for the trans-oceanic clipper ships on their regular flights. The other thing accomplished by Dr. Warner's Culture of the Pacific Basin was the fact brought home for all time that science—ethnology, anthropology, and archaeology—have taken their place, and it is a permanent place, in the realm of art. The savage art of Africa has prepared the way for the primitive of the Pacific. Dr. Warner's position in this achievement makes him a man quite apart from other experts now. He was the authority upon the art of the Far

East when he was assigned this task. There will be many more exhibitions for the young sculptors that 1939 brought before the visitors of the two Expositions.

**SCULPTORS AT TREASURE ISLAND**

The American Section in the Fine Arts Department at Treasure Island was small. Upwards of four hundred painters, one picture per man, and 35 sculptors were represented in 22 galleries, as against 72 galleries with 4,500 items listed in the American Section of the Panama Pacific International Exposition in 1915. Among the sculptors of the 1939 show were Archipenko, Burr Miller, Alfeo Faggi, James Earle Fraser, Laura Garden Fraser, Romauld Kraus, Thomas Lomedico, Arline Wingate, Wheeler Williams, Edward McCartan, Anna Hyatt Huntington, Edward McCartan, Allan Clark, Ahron Ben-Shmuel, Henry Brenner, Alexander Calder, Cornelia Chapin, Hunt Diederich, Herbert Ferber, Vincent Glinsky, Minna Harkavy, Milton Hebal, Henry Kreis, Sylvia Shaw Judson, Robert Laurent, Paulanship, Carl Milles, Albin Polasek, Harry Rosin, Rafael Sabatini, Helene Sardeau, Carl T. Schmitz, Maurice Sterne, Albert T. Stewart, Emmanuel Viviano, and Warren Wheelock.

**SCULPTURE EXHIBITS AT THE NEW YORK FAIR**

The Fine Arts Department of the New York World's Fair, in addition to a great many pieces of sculpture displayed upon the grounds, accepted 280 pieces of sculpture for the American Section, after they had been passed upon by the Sculpture Jury. Among the sculptors showing work were Jean Abels, Herbert Adams, Drusilla Albert, Enrique Alferez, Frederick Warren Allen, Edmund Amateis, Lewis Anderson, Hillis Arnold, Lili Auer, Dorothy Austin, George Baker, Saul Baizerman, Theodore C. Barbarossa, Patrocino Barela, Richmond Barthé, Ambrose Battaini, Sol. A. Bauer, Chester Beach, Enid Bell, Ahron Ben-Shmuel, Stuart Benson, Ramon Bermudez, S. F. Bilotti,



## SCULPTURE

Isidor Binswanger, Robert Ernest Blair, Alexander Blazys, Simone B. Boas, Beonne Boronda, Eleanor Boudin, Anne Bretzfelder, Robert Bros, Ann M. Brown, Sonia Gordon Brown, Marion Buchan, Mary Byrd, Doris Caesar, W. H. Calfee, Harold Cash, Samuel Cashwin, Albino Cavallito, Gaetano Cecere, Glen Chamberlain, Cornelia Chapin, Paul Childers, Aristide Cianfarani, Allan Clark, Joseph Coletti, William G. Condon, Marie Craig, Ruth Cravath, Margaret French Cresson, and Robert Cronbach. The complete list is too long to be given here.

### OTHER EXHIBITIONS

The World's Fair brought forth nearly the whole history of American sculpture. The National Academy exhibited its 140-year sculpture story in conjunction with the Metropolitan Museum of Art, and other large exhibitions made plain to the lover of sculpture the various phases through which the American sculptor had passed. In addition to these smaller shows the regular annual routine was carried through save in one or two instances, such as the omission of the Academy spring showing, fewer one-man shows, and a noticeable decrease in output.

Sculpture Exhibit in Washington, D.C. included 50 pieces by Archipenko, Barlack, Jo Davidson, Richard Davis, Chaim Gross, Kolbe, Laurent, Lembruch, Herbert Hazeltine, Lovet-Lorski, Maillol, Noguchi, Helene Sardeau, Heinz Warneke, Anita Weschler, Wm. Zorach, Jose de Creeft, L. Carroll Barnes, Henry Kreis, Paul Manship, Maurice Sterne, Hunt Diederich, Alice Decker, Wayland Gregory, Minna Karkevny, Ruben Nakian, Nathaniel Katz, Concetta Scaravaglione, Lucile Swan, Marion Walton, Wheeler Williams, Polygnotos Vagis, and Louis Slobodkin.

The Sculptors' Guild attracted 100,000 visitors during the two exhibitions at Park Avenue and 39th Street, New York. Among the exhibitors were: Margaret Bassler Kane, Howard Cash, Vincent Glinky, Jean de Marco, Concetta Scaravaglione, Anita Weschler, Jose de Creeft, Sonia Gordon

Brown, Saul Baizerman, and William Zorach.

Grand Central Gallery sculpture honors went to Brenda Putnam, Malvina Hoffman, and Attilio Piccirilli.

### PRIZES AND AWARDS

The first sculpture prize of the Golden Gate International Exposition was awarded to Romauld Kraus.

The National Association of Women Painters and Sculptors awarded three prizes to Doris Caesar, Ruth Yates, and Vivian Lush. Honorable Mention was given to Mary Byrd.

Chicago's 43rd Annual included 26 pieces of sculpture, 22 of which were from Chicago. The Sculpture Jury consisted of Mahonri Young and Alben Polasek. First prize was awarded to Mabel Perry Edwards.

The Provincetown Annual honored Chaim Gross, Sonia Brown, Arnold Geissbuhler, and Margot Allen.

### PLACEMENTS

Among the important placements during 1939 were: "The Miner," by John Flannagan; "The Ploughman," by J. Wallace Kelly; "Spanning the Continent," by Robert Laurent; symbolic groups from the studio of Maurice Sterne, including: "The Slave," by Helen Sardeau; "The Immigrant," by Heinz Warneke; and 18 figures relating to early American history, among them: the "Settling of the Seaboard," "Birth of American Democracy," "The Settler," "The Puritan," and the "Revolutionary Soldier," were installed for the Ellin Phillips Memorial on East River Drive, Philadelphia.

One hundred and one contestants submitted work for the Thomas Jefferson Memorial in Washington, D.C. Six appointments were made: Rudolf Evans, Raoul Jossett, Lee Lawrie, Maurice Sterne, Sidney Waugh, and A. A. Weinmann.

### SCHOLARSHIPS AND FELLOWSHIPS

Prix de Rome was awarded to Robert Pippinger of Indianapolis, Ind. The jurors were Mahonri Young, John Gregory, C. Paul Jennewein, Lee Lawrie, Paul Manship, Sidney Waugh.



## XXVI. THE ARTS

The John Simon Guggenheim Memorial Foundation granted a fellowship to Harry Wickey of Cornwall-on-Hudson, N.Y. for creative work in sculpture.

### "MOBILE" IN SCULPTURE

The story of American sculpture in 1939 may contain the germ of an all-time new trend—something nearly here. It will include movement in painting and sculpture which has long been a desire of the modern artists, but the very nature of painting and sculpture have made the effort fruitless until recently. The "stable" of young Alexander Calder has become in the course of his experiments a "mobile" which contains excellent composition, new form, movement,

interesting combinations of collage, or montage, and amazing to relate it carries with its invention possibilities for excellent color, space-filling devices, a certain quietude, for one must wait to see the movement, which after all depends something upon the power of a pendulum, and may be a little current in the air. The "mobile" is related, by way of color and background to painting, by form definitely to sculpture since the moving objects are in the round or quite detached. The "mobile" is the most satisfying abstraction and the most logical answer to this quest that has so long eluded the artists. It is small wonder young Calder has been awarded one of the largest monetary prizes of the year.

## ARCHITECTURE

By FRANCIS P. SULLIVAN

THE AMERICAN INSTITUTE OF ARCHITECTS

### GENERAL

The atmosphere of hesitation and uncertainty that for some years past has hampered private construction was deepened during 1939 by the outbreak of the European War. At the same time the appropriations for public works were less than in previous years so that in the field of the larger types of construction no fresh impetus made itself felt.

The agitation for the employment of architects in private practice for the design of public buildings, coupled with the parallel agitation for the selection of architects for public work by means of competitions, had its effect in the announcement of competitions for the design of several small post offices and one building of major importance—the proposed Smithsonian Gallery of Art.

The post office competitions seem to have evoked little interest among designers, and the results obtained from them were most disappointing to those who advocated the competition as the means of obtaining the best type of architectural service on public buildings. However, the se-

lected designs were all of merit and entirely adequate for the purposes which the buildings were intended to fulfill.

### SMITHSONIAN GALLERY OF ART

The results of the competition for the Smithsonian Gallery of Art were at once more interesting and more disappointing. The program permitted and even encouraged the widest latitude in the development of unconventional plans and designs, which was utilized by the competitors to the fullest extent. The composition of the jury suggested that only the new and adventurous would receive consideration, and the result was a group of drawings presenting a wide variety of schemes expressed in a most varied vocabulary.

The one thing that all the designs had in common was their complete lack of conformity with any of the established types of architecture prevailing in Washington. That the winning design, or any but a very few of those submitted, could possibly exist on amicable terms with the "Mellon" National Gallery of Art on

the other side of the Mall seems most improbable.

## THE MELLON GALLERY AND JEFFERSON MEMORIAL

The Mellon Gallery, during the course of the year, advanced to a point where its mass and detail become understandable. Correct with an almost literary correctness, formal with an eighteenth century formality, it represents, with the Jefferson Memorial, perhaps the last stand of the classic tradition in its entirety until the coming of the next Renaissance.

The Jefferson Memorial, subject of so much controversy in the past, has been rising on the banks of the Tidal Basin, Washington. The cornerstone was laid with simple ceremony, an occasion at which was observed the probably unprecedented spectacle of a speaker who thought it necessary to introduce the President of the United States to an audience of American citizens.

## CONVENTION OF AMERICAN INSTITUTE OF ARCHITECTS

The outbreak of the European war made it necessary to abandon the project of the International Congress of Architects which was to have been held in Washington during September. An attempt was made at least to have it representative of the Western Hemisphere and a most interesting collection of photographs of the architecture of South and Central America was exhibited concurrently with the convention of the American Institute of Architects.

One of the outstanding features of this convention was the revolt of youth against age, expressed in a protest by various members (counting themselves among the younger element of the profession) against the tedium of formal convention proceedings and the disproportionate influence of older men in the councils of the Institute.

Oddly enough, most of those who took part in the protest were themselves approaching middle life, and, since none of them was particularly gifted in oratory, the consensus at the conclusion of the session was that

the revolt against tedium had been responsible for perhaps the most tedious meeting ever held by the organization.

## NEW YORK AND SAN FRANCISCO FAIRS

The rival Fairs of New York and San Francisco evoked more interest than any other development of the year. The employment of color and particularly varied use of colored light in the groups introduced a new note in exposition architecture and the varied and pleasing forms of the buildings themselves (playfully conscious of their ephemeral life) created much interest and comment.

## LABOR FACTORS IN BUILDING INDUSTRY

A promise of improved relations between the building industry and the building trades was offered by the action of the American Federation of Labor in establishing a tribunal to avoid strikes growing out of jurisdictional disputes.

While this experiment was not a new one and while the former activity created for this purpose (the Board for Jurisdictional Awards) was unable to enforce its decisions against trades unwilling to abandon their selfish interest in the interest of harmony, the simplified machinery incorporated in the new plan gives hope of more effective results.

The Construction Industry Conference, held in November, 1939 under the direction of the Construction and Civic Development Department of the Chamber of Commerce of the United States, the Construction League of the United States, and other associations in the construction field, discussed the future of the Industry, the obstacles to the revival of building on a major scale and the probable effect upon the building industry of the war in Europe.

T. S. Holden, vice-president of the F. W. Dodge Corporation, offered an encouraging picture of the prospects in the near future and estimated the probable increase in private building and engineering expenditures for 1940 over 1939 at 10 or 15 per cent.

In the approaching census an attempt will be made to secure more accurate and complete figures regarding the construction industry and it is announced that for the first time in the history of the United States a census of all housing units in the country is to be taken.

A matter of deep concern to the whole building industry was the announcement early in the year that the Administration proposed to take active measures against so-called "rackets" tending to restrain building activities and, through them, the revival of industry in general. The Temporary National Economic Committee, composed of representatives of the Congress and of the Executive Departments, under the Chairmanship of Senator Joseph O'Mahoney of Wyoming, made an extensive investigation into the existence of these restraining influences, and an investigation was also carried on by the Department of Justice under the direction of Thurman W. Arnold, Assistant Attorney General in charge of its Anti-trust Division. As a result of these investigations, carried on by a force of 80 in 11 cities, prosecutions were undertaken and indictments found against individuals and trade organizations in Pittsburgh, St. Louis, Cleveland, Detroit, New York, Washington, and New Orleans.

Spokesmen for the building industry, acknowledging the probability that many abuses and malpractices existed in particular cases, defended the industry in general against the imputation that such abuses were universal or wide-spread and, while approving prosecution of dishonest practices in individual cases, deprecated any implications that would shake the confidence of the public in the good faith of the industry as a whole.

#### HOUSING

Nov. 1, 1939 will mark the second anniversary of the United States Housing Authority. Operating under the United States Housing Act of 1937 it has continued its financial assistance, in the form of loans and grants, to local housing authorities.

These local public agencies, which are primarily responsible for improving housing conditions in their communities, select the sites, design, construct and manage low-rent housing facilities for the great number of citizens in the lower income groups who can not afford to rent accommodations produced by private enterprise.

By October 1939, 133 local housing authorities in 27 states, the District of Columbia, Hawaii, and Puerto Rico had signed loan contracts with the United States Housing Authority totaling \$521,097,000, to cover 90 per cent of the construction cost of 296 housing projects providing 114,356 dwelling units. There were also a total of 51 housing authorities who had earmarkings outstanding in the total amount of \$125,702,000.

On Oct. 1, 1939, 71 local authorities in 21 states, Hawaii, and the District of Columbia had under construction 102 projects, comprising 42,968 dwelling units, whose total estimated development costs were \$215,204,000. The median estimated shelter rents (exclusive of utilities) per room per month for these projects under construction, as computed by the United States Housing Authority, were \$4.25 in the North and \$3 in the South. The number of projects completed or nearing completion was seven, valued at \$34,655,000, consisting of 6,915 dwelling units, 2,209 of which were in the process of being tenanted. The shelter rents per room per month, as finally computed and announced by local housing authorities, for these projects being tenanted range from a low of \$1.86 in Austin, Tex. to \$3.98 in New York City.

To make the United States Housing Authority facilities available to local housing authorities with the greatest possible economy of time and money and to facilitate understanding of local problems, the operating staff of the Washington office of the United States Housing Authority has organized into seven regional offices, each a working counterpart of the parent organization.

In helping farm families on or near relief to become self-supporting, the Farm Security Administration has de-

## MUSIC AND THE OPERA

veloped a housing program to aid families stranded on unproductive land by establishing them on new productive homesteads.

The Federal Housing Administration was created to draw fresh capital into the housing field, to stimulate new construction and repair existing buildings, to reduce mortgage interest and financing charges, to promote long-term, amortized, single-mortgage financing, and to set higher standards of construction and neighborhood stability.

Under Title I of the act, lending institutions are protected against loss on loans up to \$2,500 for the improvement of existing structures or for the construction of new buildings. The maximum term of a Title I loan is three years, except that loans used to construct an agricultural building may have a maximum of ten years and loans for the construction of a dwelling may have a maximum up to 15 years. The insurance coverage amounts to 10 per cent of the aggregate advanced by the lender. As of

Sept. 30, 1939, loans insured under this title numbered 2,177,360 and totaled \$898,737,281.

Under Title II of the act mortgage insurance is available, with certain exceptions, on 80 per cent of the appraised value of a home property accommodating not more than four families and mortgaged for not more than \$16,000. The mortgage must provide for complete amortization in monthly payments in not more than 20 years. An exception allows for a maximum of 90 per cent and a maturity of 25 years on newly constructed, owner-occupied, single-family houses securing loans of \$5,400 or less. As of Sept. 30, 1939, the Federal Housing Administration insured and placed on a premium paying basis 422,658 homes with mortgages totaling \$1,776,784,211, about 60 per cent of which represents new construction. In addition, 250 large scale rental housing projects with mortgages totaling \$107,976,975, were completed or under construction as of that date.

## MUSIC AND THE OPERA

By CATHARINE SMITH BAILEY

MUSIC REVIEWER, *The Christian Science Monitor*

### GENERAL

The year 1939 left a clear mark on musical performances in America. A student of history could trace the mounting crisis of world affairs through the list of beneficiaries of the many concerts given by distinguished performers. Concert after concert was given to raise money for German and Viennese refugees, then for the Poles and finally for the Finns. The record of the musical year remains in good measure a grim reflection of events across the sea. America, fortunately still remote from the current horrors, made splendid musical strides. In every branch of music, the record is an impressive one.

### THE OPERA

**Metropolitan.**—A successful and varied year passed at the Metropoli-

tan Opera House in New York in 1939. In April Manager Edward Johnson and his company wound up a winter season distinguished for its fine performances of accustomed repertory and for the addition to the repertory of such choice revivals as Verdi's "Falstaff," Gluck's "Orfeo," Mussorgsky's "Boris Godunoff," Massenet's "Thais," Charpentier's "Louise," and Beethoven's "Fidelio." In December came revivals of Montemuzzi's "L'Amore dei Tre Re" and of "The Flying Dutchman." Also in December came the first of three opera matinees for juniors arranged for the season under the auspices of the Metropolitan Opera Guild. During March, the company went on tour, leaving immediately after the formal closing of the New York season. Business, however, had been so



good that in early April, immediately after their return from the tour, and during Holy Week, the Metropolitan company gave an entire week's performances.

Summer and autumn brought unusual and increased tribulations to Manager Johnson, starting his fifth season as director of the company. The European war made it impossible for several of the singers on whom he had counted to come to this country. Even more trying than the loss of many soloists was the sudden and completely unlooked-for death of Arthur Bodanzky, the conductor who had carried the responsibility for all the German repertory, a tremendous burden in view of the continuing popularity of Wagnerian opera. Erich Leinsdorf, summoned to the Metropolitan a few seasons ago in order to lighten the burden of preparation which fell on Bodanzky, seemed the natural choice as a successor, at least for the present, and to him has gone the honor and the responsibilities of conducting a large portion of the performances in the most important opera house in the world. Born in Vienna in 1912, Leinsdorf had studied at the Akademie there. He served as assistant to Bruno Walter and Toscanini at the Salzburg Festival from 1935 to 1937. In this country he has been heard on the radio as conductor with the NBC Symphony, and has appeared as conductor at various summer concerts in widely separated cities.

**San Francisco.**—Although it is without any question foremost among opera companies, the Metropolitan is by no means the sole exponent of the lyric drama. In San Francisco the municipal War Memorial Opera House this year housed the opera company which functions there for a brief season of three weeks. The chorus is composed of native singers. Gaetano Merola has directed the group for 15 seasons, the last seven of which have been in the new opera house, whose magnificent setting and modern facilities are an inducement to fine opera production. For soloists, many of the singers from the Metropolitan are secured. A non-

profit civic organization sponsors the productions.

**St. Louis.**—A plan similar to the municipal plan in San Francisco also obtains in St. Louis. There, too, working capital has been provided by individuals and business firms in the city for a spring and fall season of grand opera. The committee in charge organized the project and secured the financial backing in 1939. Laszlo Halasz, formerly assistant conductor with Toscanini at the Salzburg Festival, was engaged as musical director, and Dr. Ernst Lert was appointed stage director.

**The Chicago City Opera Company** had to raise money to meet debts of the current year in order to continue its fine performances.

**San Carlo Opera Co.**—Fortune Gallo's indomitable San Carlo Opera Company continued on its sturdy way, with a brief New York season immediately followed by a trip to the West Coast. From there the company worked back, paying its own invincible way, playing to large audiences, and "making grand opera pay for itself" as only these intrepid troupers seem able to do.

**The Juilliard Graduate School** performed Hindemith's "Hin und Zurück" on March 26, giving the chamber opera at Town Hall under the direction of Charles Lichter. The work was given in English.

**The Philadelphia Opera Company,** Sylvan Levin musical director, although a new company, enjoyed a successful year. The casts for the operas were made up entirely of Philadelphia singers.

**The American Lyric Theatre,** with Lee Pattison as managing director, established itself in New York City. "The Devil and Daniel Webster," a folk opera by Douglas Moore and Stephen Vincent Benét, initiated the season in May. Fritz Reiner conducted, and John Houseman was the stage director. "Susanna, Don't You Cry," a musical romance by Clarence Loomis and Sarah Newmeyer, was also performed, with André Polah as conductor.

**World's Fair.**—Finally the World's Fair Court of Flame presented a

unique puppet opera season which had a repertory of seven operas, attracting many thousands of people to the four performances each day they were put on. So successful were the puppet operas, that the wooden figures, with the accompanying recordings, and the puppeteers moved to the city for a brief season when their showing at the Fair ended. The puppet opera was made by Ernest Wolff, a young Chicagoan, and his mother, Mrs. Theresa Wolff, during 13 years of experimenting. They devised the musical synchronization from phonographic recordings, as well as all the costumes, sets, and all the rest of the complicated performance.

### ORCHESTRAS

**New York Philharmonic.**—John Barbirolli, the Englishman who took over the turbulent affairs of the New York Philharmonic-Symphony, continued to lead the players through another successful year. For the first time in 10 years, the orchestra went on tour, playing 14 concerts in as many days. The tour included three Canadian engagements. Among American works of interest included in the programs was Henry F. Gilbert's "Comedy Overture on Negro Themes," first played in New York in 1907. Mr. Barbirolli conducted throughout the season except for a mid-season fortnight when Georges Enesco came as guest conductor. Nadia Boulanger, French musician, shared one gala concert with Mr. Barbirolli, when Jean Françaix, a pupil of Miss Boulanger's, made his American debut in his own piano concerto on Feb. 11. Bernard Hermann's "Moby Dick" was listed for the 1939-40 season. Soloists included Rubinstein, Spalding, Cassado, Iturbi, Elman, and Castelnuovo-Tedesco, whose Concerto for Piano and Orchestra had its initial performance on Nov. 2.

**Philadelphia.**—When Leopold Stokowski returned as guest conductor of the Philadelphia Orchestra, he created a good deal of excited comment by shifting the orchestra's traditional positions. He achieved by this

shift certain effects he sought, plus the use of acoustical reflectors. The regular conductor of the orchestra, Eugene Ormandy, returned the orchestra to its usual seating. Under Ormandy, the orchestra gave Prokofieff's "Lieutenant Kije" suite in its original form with incidental baritone solos by Abrasha Robofsky.

**The Boston Symphony Orchestra.** Serge Koussevitzky, conductor, presented four series of concerts in addition to several tours. The summer series at the Berkshire Festival at Tanglewood makes the Boston Orchestra the busiest in the country, for the season includes the regular series, the Pops concerts in June and July, the Esplanade concerts in July, and the Tanglewood appearances in August. The so-called "concert extraordinaire" for the Pension Fund, given in Boston and in New York, brought a background and costumes for the Haydn "Farewell" Symphony. With the foundation of a school in connection with the Tanglewood Festival, Koussevitzky and the Boston Orchestra have established a music center which rivals and indeed exceeds in brilliance of performance and personnel even the most noted of the European festivals. The war in Europe has automatically wiped out, for the time being at least, whatever was left by the dictatorships of the old festivals. Americans who formerly traveled to Europe for summer music may now find the finest in the world in their own country at Tanglewood. Long convinced that a strong creative pulse exists in American music and that many native works merit repeated hearings, Koussevitzky has consistently put American compositions on his programs. He made the first New York programs of the 1939-40 season entirely American. Foote, Hill, Carpenter, Piston, Harris, Randall Thompson, and William Schuman completed the list of American composers.

**Reading.**—The Reading Symphony Orchestra, with Hans Kindler conducting, began its 25th season in November.

**Indianapolis.**—Fabien Seivitzky led the Indianapolis Symphony Orchestra

in its regular series of concerts, each program carrying one native work.

**Buffalo.**—The Buffalo Philharmonic Orchestra continued under the direction of Franco Autori.

**Cleveland.**—The Cleveland Orchestra entered its 22nd season, seventh under the leadership of Artur Rodzinski. An elaborate schedule included 20 pairs of symphony concerts, six Sunday afternoon twilight concerts, concerts for children and for young people, four appearances with the Ballet Russe, and two Eastern tours. Georges Enesco and Rudolph Ringwall were guest conductors, and the list of soloists included such distinguished names as Rachmaninoff, Hess, Spalding, Heifetz, and Hofmann. Heifetz's appearance on Dec. 7 brought the world premiere of Walton's new Violin Concerto.

**The Chicago Orchestra** under Frederick Stock began its 49th season, and listed for its 1939-1940 season 88 concerts in Chicago and 10 in Milwaukee. Stravinsky and Enesco were among the guest conductors, and soloists included Horowitz, Menuhin, Kreisler, Hess, and Grainger. Stock conducted the world premiere of Borowski's Third Symphony. During the year the Bruckner Medal of Honor was awarded Dr. Stock for his efforts in behalf of the composer's music.

**The St. Louis Orchestra** was conducted by Vladimir Golschmann. Guest conductors included Charles Münch, who made his American debut with the orchestra, and Carlos Chavez, conductor of the Symphony Orchestra of Mexico. Boris Golschmann, pianist, made his American debut with this orchestra conducted by his brother.

**New Friends of Music Orchestra.**—Fritz Stiedry conducted the New Friends of Music Orchestra in New York City in a series of six concerts devoted to the works of Haydn and Bach. Five of the Haydn symphonies performed in the series were restored to their original form by Dr. Alfred Einstein and probably had not been heard for 150 years.

**Los Angeles.**—The illness of Otto Klemperer, conductor of the Los

Angeles Philharmonic, made it necessary for him to be granted a year's leave of absence. Bruno Walter, Albert Coates, and Stokowski divided the concerts of the 1939-40 season. Werner Janssen also appeared as conductor.

**The Pittsburgh Symphony Orchestra,** Fritz Reiner, conductor, initiated a series of 15 concerts in the city's high school auditoriums for the students, in addition to the regular series. The orchestra also continued its Music Appreciation Course.

**The Houston Symphony Orchestra,** Ernest Hoffmann, conductor, continued to thrive, and maintained a schedule which included four children's concerts, three chamber music concerts, a ballet performance, and 10 out-of-town appearances in addition to its regular series of 10 concerts.

**The Detroit Symphony Orchestra,** under Franco Ghione and Victor Kolar, continued its regular series of concerts, as well as the popular price Saturday night concerts and concerts for young people.

**New York Civic Orchestra.**—Victor Alessandro and the New York Civic Orchestra contrived an appearance of outstanding interest when on February 19 they performed a program consisting entirely of compositions by American winners of the Prix de Rome. Howard Hanson directed his own "Romantic Symphony."

**The National Symphony Orchestra** in Washington began its ninth season under the leadership of Hans Kindler, who was one of the recipients of the Elizabeth Sprague Coolidge Medal in 1939 for his services to chamber music. The schedule included four series of concerts, one of them students' concerts. Among the new works performed during the year was Edward Burlingame Hill's new violin concerto with Ruth Posselt as soloist on March 12. Nadia Boulanger shared the directing of one of the orchestra's concerts on Feb. 26.

**Symphony concerts for children** and young people have existed for many years in several cities in the country. An organization known as



## MUSIC AND THE OPERA

Junior Programs, Inc., has now tried to extend the scope of this type of concert and has booked morning and afternoon concerts for juveniles in conjunction with tours already arranged scheduling evening programs for adults. Eugene Goossens with the Cincinnati Orchestra, Rudolph Ringwall with the Cleveland Orchestra, Guy Fraser Harrison with the Rochester Symphony, and Hans Kindler with the National Symphony Orchestra of Washington, D. C., have cooperated in this schedule for youthful listeners.

### FESTIVALS

**Worcester.**—As orchestras, new and old, flourished during the year, so did festivals, ranging from the relative antiquity of the Worcester festival, which was in its 80th year, to many scattered infant eruptions. The Worcester Festival, extending through five concerts, was again conducted by Albert Stoessel, who included a number of compositions by American composers in his programs.

**Westminster Festival Week** came in May and was celebrated by Westminster Choir College in Princeton, N. J. During that week, the choir, augmented for the occasion by graduates and other guests, gave two concerts at the New York World's Fair, one of them an all-American program, the other a performance of Bach's B minor Mass.

**Berkshire Festival.**—Of course the relatively young Berkshire Festival given by Serge Koussevitzky and the Boston Symphony Orchestra represents the top artistic achievement of its kind in this country. It serves notice here for the remarkable advances it has made in the six years of its existence. It is the youngest of the important music festivals given in the United States, "the least pretentious in its proportions, and the most distinguished in the nature of its offerings," to quote *The New York Times*.

**American Musicological Society.**—In connection with the meetings of the American Musicological Society held Sept. 11-16, a series of concerts, open to the public as well as to the members of the congress, were given.

American chamber music, played by the Roth Quartet, cowboy songs sung by Alan Lomax, early American music by the Old Harp Singers of Nashville, Tenn., and a concert of eighteenth and nineteenth century music by the Ralph Kirkpatrick and various assisting artists made American music of various sorts bulk large in the programs of the group. Speakers at this first International Congress of the Society included Edward Dent from England, Knud Jeppesen from Denmark, Otto Gombosi from Hungary, Yvonne Rokseth from Strasbourg, France, Albert Smijers from Holland, Johannes Wolf from Germany, Francisco Lange from Uruguay, and Dragan Plamenac from Yugoslavia.

**Bach Festivals.**—May 19-20 saw the 32nd annual Bach Festival of the Bach Choir of Bethlehem, Penn., with Ifor Jones conducting the group for the first time. The Bethlehem Bach Festival has been a successful enterprise for many years. In recent years, Bach festivals elsewhere have become popular. This year Carmel-by-the-Sea, Calif., held its fifth annual Bach Festival, with a local orchestra and chorus. At Winter Park, Fla., Rollins College housed its fourth annual Bach Festival, directed by C. O. Honaas. The Philadelphia Bach Festival Association, Henry S. Drinker, president, held a Bach cantata festival May 3-4. J. A. Dash conducted the chorus. Wilkes-Barre, Pa., had a two day festival in March when the Wyoming Valley Bach Festival took place. At this second annual festival, the music of some musical predecessors and contemporaries of Bach's as well as Bach's "St. Matthew Passion" and "Magnificat" were given. Baldwin-Wallace College in Berea, O., had its 7th annual Bach Festival June 9-10. Westfield, N.J., had its third annual Bach Festival April 1.

An intercollegiate music festival was held at Sarah Lawrence College with students of music from Bennington, Bard, Vassar, Sarah Lawrence, Columbia and the Westminster Choir School on March 10 and 11. This series of concerts was sponsored by



the Intercollegiate Music Guild of America.

**Three Choir Festival.**—The fourth annual Three Choir Festival of New York took place March 31 and April 1, Lazare Saminsky, director. American Choral Music, Native, Colonial, and New, was the composite title of the music performed.

**Williamsburg.**—The music festivals held at Williamsburg, Va., in 1938 were resumed in 1939, and concerts of distinction were again given in the Governor's palace, a handsome Georgian building with a beautiful music room and adjoining gardens of great charm, where the audience strolls during intermissions. The music presented in these surroundings has become an outstanding achievement in the annual musical calendar. Authentically and buoyantly presented under the direction of Ralph Kirkpatrick, the emphasis is on chamber music, although the completion of the theatre at Williamsburg now promises eighteenth century operas which Williamsburg long ago saw.

**Mozart Festival.**—The Juilliard School of Music gave a Mozart Festival April 25-29, presenting "Figaro" and "Seraglio" in English, as well as chamber music and a concerto program by distinguished performers.

**The American Society of Ancient Instruments** gave its eleventh annual festival March 29-30 in New York City, with rarely heard works making up the three programs.

#### SUMMER MUSIC

Orchestral concerts, chamber music concerts, opera, bands and choruses again made a summer of great musical activity. In New York the Goldman Band played its 22nd season of concerts on the Mall in Central Park. At the Lewisohn Stadium, Alexander Smallens, Efrem Kurtz, Frieder Weissmann, Massimo Freccia, Walter Damrosch, Paul Paray, Kostelonetz, and others led the Philharmonic-Symphony in one of the oldest summer series in this country. Newark had the Essex County Orchestra; the Philadelphia Orchestra played at the Robin Hood Dell where opera and Gilbert and Sullivan operetta were

also heard; Boston had its annual "Pops"; in Washington the National Symphony played twice a week on the Potomac from a shell attached to a barge; the Boston Symphony with Koussevitzky conducting throughout gave the now famous Berkshire Festival in Stockbridge; Cincinnati and Toledo had operas; St. Louis had 12 weeks of municipal opera and operettas; Chicago's Grant Park offered a nine weeks' series which probably attracts the largest audiences of this kind in the country and which is sponsored jointly by the Chicago Federation of Musicians and the Chicago Park District; the Los Angeles Symphony under Monteux played at the Hollywood Bowl; Milwaukee's County Park was the scene of a series of outdoor concerts; Chautauqua had its usual series of concerts and operas with Albert Stoessel conducting; and elsewhere throughout the country summer music flourished, improving in quality as well as extent. The Syracuse Symphony Orchestra gave a summer series at Cornell. The Gordon String Quartet and the Alexander Bloch String Quartet each gave a summer series; the South Mountain String Quartet played at South Mountain, Pittsfield; at the San Francisco Fair the Coolidge String Quartet gave nine recitals during June and July. The Steel Pier Opera Company at Atlantic City had Henri Elkan as conductor. Members of the Cleveland Orchestra formed a summer orchestra and played under Rudolph Ringwall.

#### CHAMBER MUSIC

The 1939 Elizabeth Sprague Coolidge Medal for eminent services in the field of chamber music was awarded to two musicians, Alphonse Onnou and Hans Kindler. Mr. Onnou is the founder and first violinist of the Pro Arte Quartet of Brussels, active for more than 25 years. Mr. Kindler, now conductor of the National Symphony Orchestra, is known for his interest and support of chamber music through many years of musical activity.

The Roth and the Kolisch Quartets both had changes in their per-

sonnel during the year, in each case the change coming in the cello and viola participants. Julius Shaier, violist, and Oliver Edel, 'cellist, joined the Roth Quartet. Jascha Veissi and Stefan Auber joined the Kolisch group.

**The Beethoven Association** completed its twentieth season this year. Organized by expatriate musicians during the World War at a time when the musicians found themselves at extreme odds on political questions, the Beethoven Association rounded out its second decade of splendid activity after the outbreak of another war. Harold Bauer, its first president, helped formulate the rules which have directed its activities. No performers are paid for their participation, the proceeds being used for purposes of musical interest determined at the close of the season by the members. Twenty years of activity have seen the publication of the Thayer Krehbiel "Beethoven," still after more than a decade the definitive work on the great composer. In addition thousands of musicians in distress have been helped, Beethoven manuscripts have been collected, and many important contributions to musical literature have been published.

**The Contemporary and Classical Chamber Music Society**, a newer organization founded by Mark Brunswick, Roger Sessions, and Edward Steuermann, completed a successful series of unsponsored concerts with financial and artistic success, did a concert for the celebration of the birthday of Mrs. Elizabeth Sprague Coolidge, and launched plans for a new series of concerts at Carnegie Chamber Hall in New York.

**Benefits and Others.**—Ralph Kirkpatrick, harpsichordist, arranged three chamber music concerts for the benefit of the Dalcroze School of Music. The programs included several compositions not before familiar to listeners in this country, such as a Sonata for harpsichord and strings by Purcell, one of Couperin's "Lecons des Tenebres," and Domenico Scarlatti's "Salve Regina" for soprano, strings, and harpsichord.

The Roth String Quartet encompassed 40 concerts in a season of five months this past year. The South Mountain String Quartet continued its annual series in the familiar surroundings of the Temple of Music, South Mountain, Pittsfield, Mass., playing weekly during July and August. The Pro Arte Quartet gave a Beethoven cycle of six concerts at Pittsfield, Mass., when the Elizabeth Sprague Coolidge Music and Art Room in the Berkshire Athenaeum, the public library of the town, was formally dedicated. The Budapest String Quartet gave a series of 12 concerts at Mills College, Oakland, Calif., during July and August, as well as making appearances in New York. The Mischakoff String Quartet, made up of members of the NBC Orchestra, shared in the series of chamber music concerts sponsored by the Musicians' Committee to aid Spanish Democracy during the winter and spring of 1939. The Perolé String Quartet, the Granados Trio, and the Coolidge String Quartet also performed during the series.

#### CHORAL MUSIC

On Dec. 11, the Concordia Singing Society of Wilkes-Barre, Pa., Prof. Adolph Hansen conducting, gave its Jubilee Concert, the 60th anniversary of its founding. The concert also marked the 50th anniversary of Hansen's conductorship. Concordia has won many competitions at various times, but its persistence through the years as a singing society in the mining metropolis which is its home is perhaps even more significant than its various triumphs.

The Schola Cantorum in New York continued under the able leadership of Hugh Ross as conductor. In Philadelphia the Guild Singers under Isadore Freed did a performance of Randall Thompson's "Peaceable Kingdom." In the same city Harl McDonald's new choral work, "The Wind in the Palm Trees," was performed by the Philadelphia Federal Symphony Orchestra and the Symphonic Choir of that city on April 11 under the direction of Henri Elkan.

## THE THEATRE

BY JACK GOULD

DRAMA DEPARTMENT, *The New York Times*

## THE PRODUCING PHASE

The theatre in 1939 was marked by a return of the "star system." Whereas in previous years the play was the thing, the casts of many successes consisting of comparative unknowns, the past 12 months saw in numerous instances the player superseding his vehicle. Such was true for Gertrude Lawrence, Katharine Cornell, Helen Hayes, Ethel Barrymore, Paul Muni, Beatrice Lillie, Katharine Hepburn, and Ethel Waters.

Good dramatic comedy, which in 1938 had been at a premium, was again available, and musical shows were plentiful. Experimental production techniques, which were the fad the previous year, gave way to the tried and true methods of presentation, and veteran showmen were more in the limelight than the young geniuses. The Mercury Theatre disappeared from the Broadway scene altogether despite its activity in other fields of entertainment; the Group Theatre had only two intermediate successes. The Playwrights Company was handicapped in its second season by the loss of one of its most distinguished founders, Sidney Howard, a Pulitzer prize winner in playwriting, who was killed in a tragic accident at his summer estate. The war in Europe had no immediate reflections in the type of play on Broadway but the American stage was robbed thereby of the services of several prominent English actors, including Robert Morley and Wilfrid Lawson.

## THE BUSINESS PHASE

A critical jurisdictional feud between the actors and the stagehands was the highlight of the year off-stage. For most of the summer it threatened to paralyze the entire entertainment world, and costly strikes were averted only 24 hours before the deadline set for a walkout. The

stagehands were represented by their American Federation of Labor parent body, the International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators; the actors by their A. F. of L. parent, the Associated Actors and Artistes of America.

The dispute had its origin in February when the Four A's, as the actors' parent is called, decided to investigate the management of one of its branches, the American Federation of Actors, covering vaudeville and night club actors and circus performers and workers, of which Sophie Tucker was the president and Ralph Whitehead the executive secretary. Most of the charges were directed against Mr. Whitehead, who asked for the investigation in the first place, but Miss Tucker rejected the pleas of many fellow stage stars and stood loyally beside him. After a hectic *ex parte* trial the A.F.A. was found guilty of mismanaging its affairs, and its charter was revoked by the Four A's. The American Guild of Variety Artists was chartered in its place.

The I.A.T.S.E., whose West Coast representative, William Bioff, had repeatedly announced his desire to "take over" the actor unions, granted a new A. F. of L. charter to Mr. Whitehead's group. Sensing a threat to their autonomy, the actors took their case before the A. F. of L. executive council, which failed to arrive at a decision acceptable to both parties. The council had one of the most riotous sessions in its history, a group of Hollywood stars arriving in Atlantic City by plane to argue their case.

On Sept. 2 the actors reached an agreement with Mr. Bioff, whose police record they had stressed during the heat of battle, under which they won a complete victory. The I.A.T.S.E. revoked its charter to the American Federation of Actors, and



## THE THEATRE

the union went into the discard. In return the I.A.T.S.E. received a guarantee that the actors would not give any financial comfort to a C.I.O. union attempting to invade the Hollywood studios. Another consequence of the truce was that the Theatrical Managers', Agents' and Treasurers' Union lost control over the Broadway box-office men, who formed a local of their own within the I.A.T.S.E.

The League of New York Theatres, the organization of Broadway producers, and the Actors Equity Association agreed to extend for a second year the code barring speculation in the sale of theatre tickets. The code enjoyed only indifferent success during its first year, and Equity insisted on drastic revision of enforcement measures for the second year. Even with the revisions it appeared probable that the code would be in dispute.

The Theatre Guild reorganized its structure, deciding to dispense with the cumbersome method of calling meetings of its board of directors to draft policies. Complete authority was vested in Lawrence Langner and Theresa Helburn.

After nearly three years of pro and con the Dramatists Guild adopted a plan which theoretically allowed the motion picture companies to finance Broadway plays under terms more favorable than the existing basic agreement between playwright and producer. The film concerns were not too pleased with the plan, and at the year's end the rush of Hollywood gold to Broadway had not materialized.

### THE NEW YORK WORLD'S FAIR

Contrary to advance hopes, the World's Fair hurt rather than helped the Broadway theatre. With the patronage of the Fair falling far below expectations such visitors to New York as there were thought the Fair itself the better show. On the Fair grounds proper Billy Rose had the outstanding theatrical success with his Aquacade, a water carnival employing the services of Eleanor Holm and Johnny Weismuller. Approximately 5,000,000 persons saw the Aquacade. Runner-up was Michael Todd's "Hot

Mikado," which was moved from Broadway. A program of Shakespeare plays in tabloid form, which did well at the Chicago World's Fair, was a quick failure.

### THE LONGEST RUN

"Tobacco Road," Jack Kirkland's racy dramatization of the Erskine Caldwell novel on life among the Georgia crackers, played on May 24 its 2,328th performance, thereby equalling the all-time Broadway record of "Abie's Irish Rose." It was still running at the end of the year.

### THE FEDERAL THEATRE

More than five years of governmental activity in the theatre came to an abrupt end on June 30 when by Congressional action the curtain rang down on the WPA Federal Theatre Project. Started in 1934 as a \$28,000 project under the old Civil Works Administration, the American subsidized theatre grew to a \$7,000,000 annual venture employing in excess of 12,000 persons. Always the center of turbulent controversy, involving charges and counter-charges of Communism, waste, amateurism and inefficiency, the Federal Theatre, alone of the relief arts projects, was killed by Congress after an inquiry. By the Congressional action an estimated 7,900 were made jobless, previous personnel reductions accounting for the other 4,100.

Handicapped by indecision as to whether it was basically a theatre or a relief project, the Federal Theatre was perhaps the victim of exaggeration by both its assailants and defenders. Certainly Communism was not as rampant on the project as several Congressmen contended; neither was it non-existent as project supporters claimed. Of inefficiency, boondoggling and poor judgment in the selection of plays for governmental sponsorship, there was undoubtedly an ample quantity. But on the credit side were the aid for many needy theatrical folk, the introduction of the theatre to countless millions trained in movie-going, and the realization of over \$1,000,000 at the box-office, a financial return of which



perilously few other relief projects could boast.

In its final year the WPA Federal Theatre was engaged in a lively controversy with Michael Todd, a commercial producer, over the presentation of Gilbert and Sullivan's "The Mikado" in modern jazz with an all-Negro cast. The Chicago project of the WPA offered "The Swing Mikado," and Mr. Todd, seeing the show, decided to present "Hot Mikado" in New York. Whereupon the WPA promptly brought its show to Broadway at a lower box-office scale than Mr. Todd could afford. For a time the two appeared simultaneously. The WPA show was judged to have the greater spontaneity and the added advantage of opening first; Mr. Todd's was deemed much the better production, boasting lavish costumes by Nat Karson and the services of Bill Robinson, the Negro tap dancer. Mr. Todd's charge of unfair competition by the WPA was justified to some extent when the Government sold its show to another producer. When required to meet the commercial wage scales, the show promptly closed.

#### PRIZES

The Pulitzer prize was won by Robert E. Sherwood's "Abe Lincoln in Illinois" which was detailed in this report for 1938. Mr. Sherwood had won the prize in 1936 for "Idiot's Delight." During the year the play was sold for a reported \$275,000 to a motion picture concern which utilized the services of Raymond Massey who created the title role on the stage. Mr. Massey later went on a successful road tour in the play.

The Drama Critics Circle was unable to agree on a choice of the best American play of the season but "The Little Foxes" by Lillian Hellman, which starred Tallulah Bankhead, finished first on the final ballot, though not receiving the required majority. Miss Hellman told a bitter story of a Southern family's lust for power which ends with its divergent members bargaining their own souls away. Miss Bankhead had the best part of her American stage career in the drama, which was produced by

Herman Shumlin, and an excellent supporting cast included Patricia Collinge, Frank Conroy, Florence Williams, Charles Dingle, Abbie Mitchell, and Carl Benton Reid.

Second choice of the critics was "Abe Lincoln in Illinois," which several reviewers rejected for first on the ground that it was Lincoln's own speeches rather than Mr. Sherwood's words that made it a moving play. Runner-ups in the voting were "My Heart's In The Highlands" by William Saroyan, the "Rocket To The Moon" by Clifford Odets, the latter having been reported in last year's summary of the theatre. "The White Steed" by Paul Vincent Carroll was the unanimous choice of the critics for the prize as the best play by a foreign author. Mr. Carroll won the award in 1938 for "Shadow and Substance."

#### NEW AMERICAN PLAYS

**Life With Father.**—The classic writings of Clarence Day were transferred into a nearly perfect comedy by Howard Lindsay, who also portrayed the title role, and Russel Crouse. Every shred of the humor, pathos, and rage of the original were preserved intact in one of the most skillful and tasteful dramatizations of some time. The gamut of emotions inherent in Father's hectic domestic life was winningly portrayed by Mr. Lindsay. Mr. Lindsay's wife, Dorothy Stickney, brilliantly acted the part of the mother, and the balance of the cast was uniformly good, particularly John Drew Devereaux, Richard Simon, Raymond Roe, and Larry Robinson, who played the four red-headed sons. Response to the notices of the critics was immediate and "Life With Father" gave every evidence of assuming a place in the theatre equal to that of Mr. Day's works in the library. Bretaigne Windust did the direction. "Life With Father" was the initial production of Oscar Serlin.

**The Man Who Came To Dinner.**—A riotous three acts based on the life of the fabulous Alexander Woollcott marked the return of George S. Kaufman and Moss Hart to their more successful idiom of comedy. Perfectly played by Monty Woolley

## THE THEATRE

after Mr. Woolcott declined to portray himself on the Broadway stage—he was scheduled to do so, however, in a California road company of the show—the central character of Sheridan Whiteside sputters an unending stream of witty broadsides at a hapless family which gives him refuge when he breaks his leg on their doorstep. It is the *bon mot* rather than plot which concerned the Messrs. Kaufman and Hart, and "The Man Who Came To Dinner" is consequently chiefly enjoyable for the rich caricature, both nasty and nice, of one of the country's most gusty personages. Under Mr. Kaufman's skilled direction an unusually capable cast contributed to the excellence of the performance. They included Edith Atwater, Carol Goodner, John Hoysradt, David Burns, and Theodore Newton.

**Ladies and Gentlemen.**—After her enormously successful countrywide tour in "Victoria Regina," Helen Hayes chose an inconsequential tidbit, which her husband, Charles MacArthur, and Ben Hecht fashioned from an original work of Ladislaus Bus-Fekete, for her next vehicle. To a part wholly unworthy of her talents—a woman juror who disagrees with most of the panel on the verdict in a murder trial and finally carries the day—she brought all her talents and winning qualities and reaffirmed her position as the first lady of the American theatre. Philip Merivale and a competent supporting cast struggled valiantly against the script but "Ladies and Gentlemen" served only to demonstrate anew Miss Hayes's hold on the theatre-going public. It was announced to close after 13 weeks.

**Skylark.**—Samson Raphaelson's commonplace comedy of the drawing room provided an acting holiday for the spirited and restless Gertrude Lawrence, who abounded in the mere joy of being upon a stage. To the part of a wife who rebels over her husband's preoccupation with his business she brought her mastery of comedy and a buoyant enthusiasm which counteracted the deficiencies of a routine script. Donald Cook gave an attractive performance as the hus-

band, and Glen Anders played effectively the cynical bachelor. John Golden presented "Skylark."

**Margin for Error.**—Part mystery melodrama, part comedy, and part anti-Nazi fulmination, it was the work of Clare Boothe, author of two past successes, "The Women" and "Kiss The Boys Goodbye." As mystery melodrama, it was of a routine nature, falling into the error of excessive repetition in order to arrive at a plausible discovery of the actual murder. As comedy, it was up to Miss Boothe's average. As anti-Nazi propaganda, it was perhaps the best play to have been written so far on the dramatically attractive though difficult subject. Otto Ludwig Preminger, who during the year joined the Yale Drama School faculty, was vividly villainous as the German consul who is killed in his own home. Sam Levene, as the young Jewish patrolman who solved the slaying, dominated the proceedings with his exuberant performance. "Margin For Error" was a production of Richard Aldrich and Richard Myers.

**My Heart's In The Highlands.**—This was a first play by William Saroyan, the ebullient Armenian writer, whose previous efforts had been confined to the short story field. With formless spontaneity and an inherent love of people, Mr. Saroyan wrote a delightful fantasy of a poverty-stricken poet who believes in his own greatness and can not understand the outside world's indifference. In the poet's neighbors the young author created a group of lovable characters. "My Heart's In The Highlands" was perhaps most accurately described as an enjoyable dream transplanted on the stage. Robert Lewis had his first chance as a director and acquitted himself nobly, capturing in every detail the enchantment of Mr. Saroyan's work. Art Smith, Philip Loeb, and young Sidney Lument were awarded the leading acting honors. The progressive Group Theatre was the sponsor.

**The Time Of Your Life.**—The second play of William Saroyan's to be produced within the year, it won even greater critical approbation than

"My Heart's In The Highlands." With most of the action taking place in a San Francisco waterfront saloon, it was a sprawling drama, lacking in traditional form though rich in spiritual values, which captured its audience by the author's unflinching belief in the goodness of all people. From a common dive Mr. Saroyan plucked the poetry inherent in the lowly, and his prose portrayed them with humor and loving care. Eddie Dowling, who was associated in the production with the Theatre Guild, gained new stature as a performer with his interpretation of the central character named Joe. He also played the major part in the direction, which was the cause of protracted controversy. The supporting cast included Julie Haydon, William Bendix, Charles De Sheim, Len Doyle, Gene Kelly, and Housely Stevens, Sr. Reginald Beane wrote the incidental music, and Watson Barratt designed the sets.

**No Time For Comedy.**—For the fourth production of the Playwrights Company, S. N. Behrman fashioned a drawing-room comedy with the inevitable triangular plot. This time it involved a playwright who is persuaded by the other woman that she should forsake the field of comedy for something on the serious side, only to be convinced finally by his wife that he should stick to his own knitting. The play was notable chiefly for Mr. Behrman's polished wit and extreme good manners. Here again was another instance where the players made the show, the role of the wife being portrayed engagingly by Katharine Cornell. As the playwright Laurence Olivier, the brilliant young English actor who had won prominence in the films, established himself as a leading matinee idol of today. He later withdrew from the cast, Francis Lederer assuming the role. Margalo Gillmore played the other woman, and Guthrie McClintic, Miss Cornell's husband, directed.

**The Philadelphia Story.**—After several unfortunate experiences before the footlights Katharine Hepburn finally justified in Philip Barry's comedy the high regard in which she had been held by the motion-picture

fans. Mr. Barry provided her with a rich part as a girl of undoubted mental gifts who ultimately acquires the understanding of a woman. Expertly directed by Robert Sinclair, the play was one of the biggest hits of the season. Outstanding in Miss Hepburn's company were Van Heflin, Joseph Cotten, Frank Fenton, and Shirley Booth. "The Philadelphia Story" also immeasurably helped the Theatre Guild climb back to its former position of distinction after several failures.

**Family Portrait.**—The Lenore Coffee-William Joyce Cowan story of Christ as seen through the eyes of His family was one of the more worth while productions of the season, primarily because of the extraordinarily beautiful performance of Judith Anderson as Mary. As a play, however, it had many short-comings because it had little of the progress demanded of a drama and devolved for the major part into mere chitchat hardly becoming the telling of perhaps the greatest story that can be told. Margaret Webster, who also played Mary of Magdala, did the direction. Cheryl Crawford, in association with Day Tuttle and Richard Skinner, was the producer.

**Mamba's Daughters.**—The dramatization by DuBose Heyward and his wife, Dorothy, of Mr. Heyward's novel was distinguished chiefly for the performance of Ethel Waters, who had been previously identified as a blues singer in musical revues and night clubs. To the part of Hagar, a plodding, dull-witted Negress, whose problem in life is a talented daughter who goes outside her mother's limited world, Miss Waters brought an artless simplicity and an emotional perception of wide range. It was one of the foremost portrayals of the year. Georgette Harvey, Fredi Washington, Willie Bryant, and José Ferrer were also in the cast of the play which Guthrie McClintic staged and produced.

**The Gentle People.**—Irwin Shaw, who started his career so illustriously three years earlier with "Bury The Dead," wrote a fable of two fishermen who were beset by a gangster



and who finally murder him in self-defense. His work lacked cohesion and impact except for a few telling scenes, and its popular success was admittedly due to an appreciable extent to the presence in the cast of Franchot Tone and Sylvia Sidney, both of the films. Sam Jaffe, Roman Bohnen, and Lee J. Cobb contributed altogether superior performances. Harold Clurman directed the work, a Group Theatre production.

**The American Way.**—In the gargantuan confines of the Center Theatre, George S. Kaufman and Moss Hart, deserting temporarily their traditional field of comedy, presented an American cavalcade of equal proportions. The story told of a German immigrant who came to Ellis Island in 1896 and died 40 years later in defense of the American way of freedom. However, it was more in Mr. Kaufman's staging of spectacular scenes which revived the past that "The American Way" captured an audience's emotions. Fredric March and Florence Eldridge headed a cast of 250 and performed superbly, particularly in the light of the handicaps inherent in a stage the size of the Center's. Reportedly prepared in anticipation of the throngs of the World's Fair theatre-goers who never arrived, "The American Way" was not a financial success. Its huge overhead demanded consistently near-capacity houses but some observers sensed public antipathy toward unabashed flag-waving in the light of the critical times abroad.

**Key Largo.**—Maxwell Anderson's study of honor brought Paul Muni back to the stage in the role of an American volunteer in Loyalist Spain who refuses to go to a useless death, regardless of the moral consequences. The critics agreed that Mr. Muni's distinction as an actor had been enhanced rather than hurt by his exile in Hollywood and that it was his performance almost alone that lent "Key Largo" its force. Mr. Anderson was charged with confusing his functions as poet and dramatist. Uta Hagen played opposite Mr. Muni and others in the company were José Ferrer, the late Harold Johnsrud, Frederic Tozere

and Ralph Theodore. Guthrie McClintic staged the play which was a production of the Playwrights Company.

**Farm of Three Echoes.**—Noel Langley's play on a Boer family in South Africa was still another example of the star making the show. In this instance it was Ethel Barrymore playing a 97-year-old grandmother, who lifted the work from obscurity. She played the part with humor and obvious delight and maintained the Barrymore tradition of completely fascinating her audience whenever she chose. The play was a production of Victor Payne-Jennings in association with Arthur Hopkins who also did the direction.

**The World We Make.**—This play by Sidney Kingsley, a Pulitzer Prize winner in playwriting, was based on the Millen Brand novel, *The Outward Room*. As also directed and produced by Mr. Kingsley, the story of a young girl's anguish and loneliness until her gradual ascendancy to freedom in the social world made a poignant and thoughtful drama. Mr. Kingsley embellished the original novel with added bits of contemporary significance but in general retained the simple saga of the girl who finds the world does need her. Margo played the central character with understanding, and Herbert Rudley was her hero in the laundry. Harry Horner's scenery was as brilliant as any work he has done.

**Others.**—"The Primrose Path," a Robert L. Buckner-Walter Hart play suggested by *February Hill*, the novel by Victoria Lincoln; "I Must Love Someone," by Jack Kirkland and Leyla Georgie, which was noted for its bawdiness and atrocious acting; "Mrs. O'Brien Entertains," by Harry Timothy Madden, a lively comedy on the New York Irish at the turn of the century; "Miss Swan Expects," a lightweight comedy by Sam and Bella Spewack; "Off To Buffalo," by Max Liebman and Allen Boretz, a farce undeserving of the magnificent talents of the one and only Joe Cook; "The Happiest Days," a study by Charlotte Armstrong of a young couple bent on suicide, which uncovered a



promising young actress named Uta Hagen; "Wuthering Heights," a clumsy dramatization by Randolph Carter of the Emily Brontë novel; "Day In The Sun," by Edward R. Sammis and Ernest V. Heyn; "The Brown Danube," a feeble anti-Nazi drama, by Burnet Hershey; "See My Lawyer," a typical George Abbott comedy production, by Richard Maibaum and Harry Clork; "Foreigners," a comedy about ill-feeling between nations, by Frederick Lonsdale; "Summer Night," by Vicki Baum, of "Grand Hotel" fame, and Benjamin Glazer; "Thunder Rock," by Robert Ardrey, which the Group Theatre presented; "Morning's At Seven," a Paul Osborn comedy of old people, which was produced by the Theatre Guild and Dwight Deere Wiman, and "Christmas Eve" by Dr. Gustav Eckstein.

#### SHAKESPEAREAN REVIVALS

**Henry IV, Part 1.**—In the rôle of Falstaff, Maurice Evans added another memorable portraiture to his repertory. Following his successes in "Richard II" and the full-length version of "Hamlet," Mr. Evans and his director, Margaret Webster, exhibited anew in their production of "Henry IV," Part 1, that a Shakespearean play need not be chained to an unimaginative tradition. To a humorous whole Falstaff's cowardice and knaveries are logical complements in Mr. Evans's construction of an intelligent character. The supporting company was of an unusually high order, particularly Wesley Addy as Hotspur, Mady Christians as Hotspur's wife, the late George Graham as Justice Shallow and Rhys Williams as Owen Glendower. Mr. Evans also produced the revival.

**Hamlet.**—The full-length version of the play, which was described in this report for 1938, was brought back to Broadway by Mr. Evans for a limited engagement of five weeks. The return engagement, which interrupted a successful countrywide tour, was received with the same enthusiasm as marked its initial presentation. The only cast changes were Raymond Johnson for George Gra-

ham in the part of Polonius and Carmen Matthews for Katherine Locke in the part of Ophelia. Mr. Graham died while the play was in Chicago. Miss Locke had another commitment.

#### OTHER REVIVALS

Despite the number of other revivals none did well. They included Oscar Wilde's "The Importance of Being Earnest," with Clifton Webb, Estelle Winwood, Hope Williams and Helen Trenholme; Clifford Odets' "Awake and Sing"; R. C. Sheriff's "Journey's End," with Colin Keith-Johnson in his original role of Captain Stanhope; Sidney Howard's "They Knew What They Wanted," with June Walker, and Chekhov's "Three Sisters," produced by the Surry Players.

#### IMPORTED PLAYS

**The White Steed.**—Paul Vincent Carroll's winner of the foreign play prize of the Drama Critics Circle told of the conflict between a human parish priest and a fanatical and moralist canon who seeks to gain complete control of the village church. The outcome is the triumph of religious benevolence over religious intemperance. Mr. Carroll phrased his work in the gusty language of his native country of Ireland. Barry Fitzgerald touched the heights of comic acting with his portrayal of the lovable priest, and George Coulouris was remarkably sinister as the canon. Eddie Dowling produced the play.

**The Flashing Stream.**—A first play by Charles Morgan, drama critic of *The Times* of London, "The Flashing Stream," had an abrupt engagement on Broadway after a moderate run in England. Mr. Morgan was occupied with the "singleness of mind" and he set his spiritual problem on an island where a group of British navy engineers were conducting experiments. He tended to confuse his themes, and while many of his long passages contained a lyric quality of merit they were difficult to speak from a stage. "The Flashing Stream" made better reading than playing. Godfrey Tearle and Margaret Rawlins, heading an English cast, had the leading roles.

## THE THEATRE

**Dear Octopus.**—Dodie Smith's comedy on family life was brought over from London by John C. Wilson. New York found it a winning if often an excessively gentle exposition of the life of the Randolphs who are bound together by the tentacles of the English family. Admirably staged by G. E. Calthrop, it boasted an exceptional cast, including Lucile Watson, Lillian Gish, Rose Hobart, Jack Hawkins, Reginald Mason, Phyllis Joyce, and Phyllis Povah.

**The Mother.**—The last play of the late Karel Capek, one of Czecho-Slovakia's most prominent dramatists, told of a mother who gave her five sons and husband to duty. She intended to keep the fifth son for herself but finally sends him off to answer her country's call. The play was wanting in accomplished production and, except for Alla Nazimova's portrayal of the title role, poorly acted and staged.

**Others.**—"Where There's A Will," Edward Stirling's adaptation of Sacha Guitry's comedy; The One-Act Repertory Company's program consisting of "The Coggerers," by Paul Vincent Carroll; "The Red Velvet Goat," by Josephinna Niggli, and "Mr. Banks of Birmingham," by Jean Giradoux; Stefan Zweig's "Jeremiah," a Theatre Guild production; "Close Quarters," Gilbert Lennox's two-character drama derived from W. O. Somin's "Attentat" and "Kindred," by Paul Vincent Carroll.

### SPECTACLE AND MUSICAL

**Too Many Girls.**—This was a fresh, gay and first-rate boy-and-girl musical, involving football players, co-eds and an irate parent or two. Lorenz Hart, the impish lyricist, contributed some of his best work to the catchy music of his partner, Richard Rodgers, particularly his lament about the swing bands which bury the melody. Eddie Bracken, a young veteran of the George Abbott company, gave promise of becoming a leading comedian, and others who added to a youthful evening were Mary Jane Walsh, Desi Arnez, Diosa Costello, Richard Kollmar, and Hal LeRoy, the tap dancing expert.

Raoul Pene du Bois endowed "Too Many Girls" with lavish costumes, and Robert Alton substantiated his fame as perhaps the No. 1 dance director of today.

**Du Barry Was a Lady.**—This was a bawdy musical serving as a showcase for the inimitable talents of Ethel Merman and Bert Lahr. The book, written by B. G. DeSylva who also produced the show, and Herbert Fields, was borrowed from the world of Minsky's burlesque, but it afforded Miss Merman and Mr. Lahr ample opportunity to strut their specialties and that seemingly was enough for the public. Cole Porter wrote the score but it was not up to his usual standard of lyrical comment and observation. The production was lavishly presented in a manner reminiscent of the days of Ziegfeld, and Raoul Pene du Bois brought his customary imagination to the costumes. Robert Alton staged the dances and Edgar MacGregor directed the book. Of the supporting cast, Betty Grable from the films, Ronald Graham, who possesses an excellent baritone voice, and Benny Baker were outstanding.

**The Streets of Paris.**—A rowdy, summerish offering was this revue of the Shuberts and the "Hellzapoppin" comedians, Olsen and Johnson. Robby Clark and Luella Gear, plus a handful of accomplished vaudeville turns, provided the comedy but an unknown from the South American shores, by name Carmen Miranda, accounted for the highlight of the show. Barely moving and with eyes almost closed, she rendered sub-equatorial ditties which radiated heat and made her the toast of the café society circuit.

**Set To Music.**—Noel Coward went to the cupboard for the ingredients of a musical revue which had a share of witty and tuneful moments, thanks to the eversparkling Beatrice Lillie, but fell short of the English master's usual standard. It seemed pieced together hurriedly and ponderous in the moments Miss Lillie retreated to the wings. Richard Haydn scored a personal success with an extraordinary bit of fish mimicry.

**Others.**—Another visit by the highly-successful D'Oyly Carte Opera Company, presenting their repertoire of Gilbert and Sullivan operettas; "Stars In Your Eyes," with Ethel Merman and Jimmy Durante, which received raves from the critics but was disappointing at the box-office; "Blackbirds of 1939," another of Lew Leslie's Negro revues; "Sing For Your Supper," a WPA musical which was in rehearsal for more than a year; "Pins and Needles, 1939" and "New Pins and Needles," further editions of the popular topical revue of the International Ladies Garment Workers Union; "From Vienna," a charming little revue with a cast of refugees from Austria; "Yokel Boy," a lively musical distinguished by the score of Lew Brown, its producer; George White's "Scandals," a routine summerish revue; "The Straw Hat Revue," one of the better shows to be culled from the summer theatre circuit, and "Swingin' The Dream," a \$100,000 failure at the Center Theatre,

which was intended as a Negro jazz version of "A Midsummer Night's Dream."

#### SUMMER THEATRES

Because of the paucity of suitable summer stock material in the Broadway productions of 1938, the rural theatres had to rely primarily on revivals, which did little to increase their importance. "Life With Father" was the only play to emerge as a Broadway success after an initial try-out in the country. Play agents paid comparatively little attention to the theatres, relying on their talent scouts to cast a casual glance at what new scripts there were. Thornton Wilder's "Our Town," requiring no scenery, received the greatest number of productions, with the George S. Kaufman-Moss Hart comedy, "You Can't Take It With You," a close second. The Actors Equity Association reported that there were the same number of theatres as last year—75 or so.

### MOTION PICTURES

BY FRANK S. NUGENT

MOTION PICTURE CRITIC, *The New York Times*

#### THE INDUSTRY

The facts of life, which Hollywood consistently ignores in its fabrication of screen entertainment, were brought home bitterly to the motion picture industry during 1939. War, labor trouble, lawsuits, government interference with its business, and money worries were a few of the hazards of existence Hollywood was unable to turn its back upon.

As the old year ended and 1940 began, the war in Europe and in Asia remained the industry's greatest problem, for war freezes foreign markets, and foreign markets have contributed as much as 40 per cent to the American screen's revenue. The question facing the industry, and one still unanswered, is whether it can compensate for the closing of markets and the freezing of remittances (50 per cent in the instance of Great

Britain) by fuller exploitation of the domestic mart, or whether it will have to pull in its production horns and make less expensive pictures gaited to a national, rather than worldwide, audience.

Although forecasts are not properly within the province of this annual report, it seems pertinent to add that leaders of the industry appear inclined to view the situation with at least some degree of optimism. Four months ago they shelved, in panic, most of the stratospherically-budgeted productions so proudly announced early in the year. Heads were lopped off indiscriminately, but not so indiscriminately as to cause any serious shortage of high-salaried executives. But, as the year ended, million-dollar pictures began to be mentioned again and there was talk of reducing the quantity of Class B



## MOTION PICTURES

pictures without stinting the Class A variety. That remains to be seen.

### LEGISLATION

Almost as menacing as the war threat, and regarded in some quarters with even greater fear, was the Neely anti-block-booking bill which again was passed by the Senate during the year and is to come again for debate and action before the House of Representatives in 1940. The bill was mentioned briefly in the previous edition of *THE AMERICAN YEAR BOOK*. Involved and highly technical, it seeks to outlaw the trade practices known as "block booking" and "blind selling" by which film distributors compel theatre men to rent blocs of pictures, sight unseen, at the outset of the season, rather than permit them to rent singly such pictures as they may want to show.

The major producers are almost unanimously against the reform, since they contend it is only a guaranteed market that permits them to risk the huge sums expended annually in film production. The exhibitors are divided over the measure; one group argues it is preferable to have an assured quota of films for its theatres than to have to bid individually for every picture it wants to show; the other group favors the bill on the ground that the quality of pictures will be improved, with resulting increase in box-office revenues, if producers find they can not find buyers for inferior pictures.

These are only a few of the arguments over some of the simpler phases of the bill. Its ramifications and complications are almost beyond the ken of a layman. But there is no doubt that passage of the bill would have far-reaching effect on the film industry and on the filmgoer.

### LITIGATION

Equally important to the industry and to the public are the Federal suits in equity accusing the major companies of combining in restraint of trade and the independent-exhibitor suits accusing the same companies of trust-law violation. These actions were to have come to trial in 1939,

but they are still pending. Dissolution of the producer-distributor-exhibitor tie-up would shake the film industry to its foundation; and out of that shake-up no one can foresee completely what would develop.

One development is clear, however, from events of 1939. Independent production would be greatly stimulated. It is commonly believed that the very threat of Federal dissolution of the existing set-up was responsible for the creation in 1939 of such new production units as that of Gene Towne and Graham Baker, of Max Gordon and Harry Goetz, of Herbert Wilcox, of William Stephens and Howard Lang, of Frank Capra and Robert Riskin, of Richard Rowland, of Sol Lesser, of Ernst Lubitsch, of James Roosevelt, of George Green and Sig Schlager, of Harry Edington, and of David Loew and Albert Lewin among the many.

Coinciding with this remarkable upswing of independent production on the West Coast were the announcements of the formation of new units pledged to eastern film production. Mayor Fiorello H. LaGuardia of New York City fathered this development by inviting the picture industry to return to the East, where it was born, and pledging his assistance in arranging financing. The Gordon-Goetz unit was considering making its films in Astoria, Long Island, and so was that organized by George Jessel. Another, announced early in 1940 by Christopher Dunphy, was contemplating two productions in the former Biograph studios in the Bronx.

### LABOR

Continuing the industry report, the year 1939 saw Hollywood's relations with labor strained to, and in some cases beyond, the breaking point. At one time it seemed inevitable that members of the Screen Actors Guild would walk out of the studios; at another it seemed inevitable that theatre projection machine operators would quit their booths and cast the screens into darkness. Both strikes were averted, but by the narrowest of margins.



The Actors Guild strike was threatened because of its opposition to the granting of a charter to the American Federation of Actors by the International Alliance of Theatrical Stage Employees. Late in November a controversy between producers and the American Federation of Labor studio unions was settled with a grant of a 10 per cent pay increase, subject to adjustment in February 1940.

Other labor developments of the year, briefly summarized, were the signing of a nine-year agreement between the producers and the Screen Directors Guild, the defeat of the United Studio Technicians Guild in its attempt to gain control of 12,000 IATSE members, and the strengthening of the Studio Publicists Guild.

#### PRODUCTION FACTS

In spite of the internal disorder and the pressure of world affairs, the American film industry maintained its usual production schedule. It produced 596 feature films as against 1938's 594, at an estimated production cost of \$155,000,000, only \$10,000,000 less than was spent the year before. Attendance remained constant: about 85,000,000 paid admissions a week at an average of 23 cents per ticket. New theatres were built at a cost of \$14,500,000; remodeling involved the expenditure of \$6,500,000 more, slightly higher than the 1938 report. About three-fourths of the nation's theatres are committed to a double-feature policy. Games, such as bank night, screeno, and bingo, were slightly less prevalent; premiums (dishes, washing machines, automobiles) were used more frequently to attract patrons.

In point of quality, there seems to be no doubt that 1939 was superior to 1938, which may be recalled as "Motion Pictures' Greatest Year." Reviewers who, in 1938, had to piece out their ten-best lists with importations from abroad, had no difficulty in confining their 1939 list to Hollywood; the difficulty was in confining the list to ten. *The New York Times'* ten best in the order of their opening were:

#### TEN BESTS AND OTHER AWARDS

"Made for Each Other," from a screen play by Jo Swerling; directed by John Cromwell; produced by David Selznick, and featuring Carole Lombard and James Stewart.

"Stagecoach," based on Ernest Haycox's *Stage to Lordsburg*; adapted by Dudley Nichols; directed by John Ford, and produced by Walter Wanger.

"Wuthering Heights," adapted from the Emily Bronte novel by Ben Hecht and Charles MacArthur; directed by William Wyler; produced by Samuel Goldwyn, and starring Merle Oberon and Laurence Olivier.

"Dark Victory," adapted by Casey Robinson from the play by George Emerson Brewer Jr. and Bertram Block; directed by Edmund Goulding; produced by the Warners, and starring Bette Davis.

"Juarez," adapted by John Huston, Wolfgang Reinhardt, and Aeneas MacKenzie from Mrs. Bertita Harding's *The Phantom Crown* and a play by Franz Werfel; directed by William Dieterle; produced by the Warners, starring Paul Muni, Bette Davis, and Brian Aherne.

"Goodbye, Mr. Chips," adapted from the James Hilton novel by R. C. Sheriff, Claudine West, and Eric Maschwitz; directed by Sam Wood; produced in England by Metro-Goldwyn-Mayer, starring Robert Donat and Greer Garson.

"The Women," from Clare Boothe's play; adapted by Anita Loos and Jane Murnin; directed by George Cukor and featuring an all-female, all-feline cast headed by Norma Shearer, Rosalind Russell, and Joan Crawford.

"Mr. Smith Goes to Washington," adapted by Sidney Buchman from a novel by Lewis Foster; directed and produced by Frank Capra for Columbia; starring James Stewart and Jean Arthur.

"Ninotchka," adapted by Charles Brackett, Billy Wilder, and Walter Reisch from a story by Melchior Lengyel; directed by Ernst Lubitsch and produced by Metro-Goldwyn-Mayer, with Greta Garbo and Melvyn Douglas.

"Gone with the Wind," adapted by the late Sidney Howard from the novel by Margaret Mitchell; directed by Victor Fleming; produced by David Selznick; starring Vivien Leigh, Clark Gable, Leslie Howard, and Olivia de Havilland.

The ten-best selected by a nationwide critics' poll, sponsored by the trade publication, *The Film Daily*, produced this result, in the order of their vote: "Goodbye, Mr. Chips," "Mr. Smith Goes to Washington," "Pygmalion," "Wuthering Heights," "Dark Victory," "The Women," "The Wizard of Oz," "Juarez," "Stanley and Livingstone," and "The Old Maid."

Since "Pygmalion" was released in 1938, it should be explained that *The Film Daily* poll was based on pictures shown between Nov. 1, 1938 and Oct. 31, 1939. Both "Gone with the Wind" and "Ninotchka," which were released later in the year, were therefore ineligible for the ten-best nomination.

Completing the honors list, the New York Film Critics made their fifth annual awards as follows: to "Wuthering Heights" as the best picture of 1939; to James Stewart in "Mr. Smith Goes to Washington" as the best performance of the year by an actor; to Vivien Leigh as Scarlett O'Hara in "Gone with the Wind" as the best performance by an actress; to John Ford for "Stagecoach" as the year's best job of direction; to "Harvest," a French film, as the best foreign-language picture of 1939.

No awards are iron-clad and it is possible to offer a supplementary list of domestic "bests" which would include "Love Affair," "We Are Not Alone," "Bachelor Mother," "Young Mr. Lincoln," "Idiot's Delight," and "The Old Maid."

#### TRENDS AND CYCLES

In his annual report to the industry, Will H. Hays, president of the Motion Picture Producers and Distributors of America, predicted in March that the "call" in 1939 would be "for the continuance and increase of those themes and treatments emphasizing mankind's long struggle for freedom and the hopes or aspirations

of free men everywhere; for the proper emphasis of the theme of Americanism by pictures that present the strongest measure of hope in their portrayal of stories of success attained through initiative, perseverance, and sacrifice; for pictures of the problems of the average man and woman; for pictures that will meet to an even larger extent our entertainment responsibilities to our sister Americas and help erase misunderstanding by portraying their history, ideals and cultural patterns, and thus draw our peoples together."

The record of the year quite fails to justify Mr. Hays's forecast. It is true, however, that the partial collapse of foreign markets and Hollywood's ultimate realization that it had lost the German and Italian markets and so had nothing to fear from that quarter, did serve to turn the industry's attention toward Americanism and did permit it to speak more candidly about dictatorships. The only politically outspoken film of 1938, it may be remembered, was "Blockade," which dealt romantically, yet dealt, with the Spanish Civil War. But in 1939 it was outspokenly anti-Hitler in "Confessions of a Nazi Spy," in "Beasts of Berlin" (initially called "Hitler, Beast of Berlin"), in "Espionage Agent," and in half a dozen films of lesser importance.

Although some few of these were seriously and probably honestly presented—"Confessions of a Nazi Spy" appeared on the ten-best list of Howard Barnes, critic of *The New York Herald Tribune*—there is sound reason to believe that opportunism rather than idealism was the motive behind most of the Hiss-the-Hun pictures. Villains, according to the Hays production code, are not supposed to be identified as to nationality. Yet it became common practice, in films dealing indefinitely with spy rings, sabotage, theft of death ray machines, and other such melodramatic commonplaces, to equip the menace with a ripe Teuton accent, a Heidelberg saber scar, and a penchant for heel-clicking. Even in a harmless Sonja Henie romantic comedy,

"Everything Happens at Night," the inevitable chase motif, a hangover from the Keystone days, was provided by the Gestapo's pursuit by sleigh of a fugitive Nobel prize-winner. The Gestapo, a German spy agent, or a Bund leader became during the year the screen's timely and convenient substitute for the outmoded "greaser," sinister Oriental, or dark-mustached philanderer.

#### HORSE OPERAS

Another noticeable cycle which had great vogue early in the season and flared up again toward the year's end was that of large-scale Western films, known to the trade as "horse operas." "Jesse James," "Oklahoma Kid," "Dodge City," "Union Pacific," "Let Freedom Ring," "Stand Up and Fight," and "Destry Rides Again" employed such significant box-office favorites as Tyrone Power, James Cagney, Errol Flynn, Barbara Stanwyck, Nelson Eddy, Robert Taylor, Marlene Dietrich, and James Stewart who, in the ordinary course of events, never would have been mentioned in the same breath with the horse opera.

The "family" series continued to flourish, headed by the homespun Judge Hardy group which stars Mickey Rooney—voted the biggest box-office draw of 1939. The Jones family, a Warner series begun as "Four Daughters," the Thin Man stories, and a chain based on the comic strip character, "Blondie," were recurrent screen features. Hollywood also sought to repeat past successes by following "Three Smart Girls" with "Three Smart Girls Go to Paris" and "Three Smart Girls Grow Up"; by producing a "There's That Woman Again" after scoring with "There's Always a Woman," and many others of the sort.

#### REMAKES

As the year ended the public and exhibitors both were protesting the frequency with which Hollywood was remaking old films and sending them out under new titles and with different players. Thus "The Valiant," an old Paul Muni success, appeared as

"The Man Who Wouldn't Talk." The old melodrama, "The Dove," emerged as "The Gambler and the Lady." The Hecht-MacArthur newspaper comedy, "The Front Page," became "His Girl Friday." There were at least 25 others. To these can be added remakes under their original titles—"Beau Geste," "The Light That Failed," "Raffles," "Adventures of Sherlock Holmes," "The Hunchback of Notre Dame," and several others.

The year about finished the operatic film and saw only a few of the large-scale musical comedies that dominated the screen three or four seasons ago. In their place were song "cavalcades" purportedly inspired by the lives of popular composers. Among these were "Swanee River," only theoretically the story of Stephen Collins Foster; "The Great Victor Herbert," which employed the Herbert melodies to set off a romance between a waning tenor and a rising soprano, and "Rose of Washington Square," which was a veiled monument to the former Ziegfeld star who put over the song, "My Man."

#### BIOGRAPHY AND HISTORY

Biography and history were served with varying success, but, generally speaking, displayed somewhat more reverence for fact and greater care in casting than the screen usually shows. Among the best of the biographies were "Man of Conquest," the story of Sam Houston, "Alexander Graham Bell," "Young Mr. Lincoln," "Juarez," and "Nurse Edith Cavell." Foremost among the historical films, although its dramatic personal story almost unfits it for that classification, was David Selznick's film production of the widely-read Margaret Mitchell novel, *Gone with the Wind*. This, of course, was the great event of the year, the most costly film ever produced (\$4,000,000) with a running time of almost four hours and unquestionably a milestone in the history of the screen. Beside it such other historical films as "Union Pacific," "Rulers of the Seas," and "Hollywood Cavalcade" were hopelessly dwarfed, however impressive



## MOTION PICTURES

they may have seemed at the time of their first showing.

### CARTOONS

The remarkable success of Walt Disney's first feature-length cartoon, "Snow White and the Seven Dwarfs," in 1938 had the public clamoring for more, but cartoon-making is a long and costly process, and the Disney studios were unable to complete either of their two new features during 1939. His "Pinocchio" will be released early in 1940, however, and after that will come his concert film, tentatively called "Fantasia." One feature cartoon was made and released during the year, the product of the Max Fleischer studios, makers of "Pop-eye" and other short cartoons. It was "Gulliver's Travels" and, although not up to the Disney standard, proved popular and proved the public's willingness to accept starless features.

### NEW FACES OF 1939

During the retrenchment process instituted earlier in the year, Hollywood shelved, temporarily at least, many of its featured or supporting players and brought new faces up from the ranks or across the seas from Europe where they had enjoyed a Continental reputation. Among the most interesting arrivals were Vivien Leigh, the English actress chosen to play Scarlett O'Hara in "Gone with the Wind" and who won the New York Film Critics' award for her performance; Greer Garson, also from England, who was brought to Hollywood after her charming performance in "Goodbye, Mr. Chips"; Geraldine Fitzgerald of "Wuthering Heights" and "Dark Victory"; Ingrid Bergman, a Swedish actress, who scored in "Intermezzo, a Love Story" and Maureen O'Hara, from Ireland, who came to Hollywood's attention through "Jamaica Inn" and was co-starred with Charles Laughton in RKO Radio's "The Hunchback of Notre Dame."

Among the other new faces, chiefly up from the Hollywood ranks or discovered on the stage, were those of Gloria Jean, a pert 11-year-old; Lana Turner, Brenda Marshall, Brenda

Joyce, Robert Preston, Susan Hayward, Betty Field, Vaughan Glaser, Barbara O'Neil, Gale Page, Jane Bryan, and William Holden.

### BOX-OFFICE FAVORITES

While these players were coming up, there was a slight re-shuffling of established favorites, according to *Fame*, which audits personalities annually on the basis of their box-office attractiveness. After leading the hit parade for four years, Shirley Temple fell to fifth place as another screen youngster, Mickey Rooney, moved from fourth to first. The nine other ranking players, on the basis of popularity, were Tyrone Power, Spencer Tracy, Clark Gable, Mistress Temple, Bette Davis, Alice Faye, Errol Flynn, James Cagney, and Sonja Henie. Miss Davis, Mr. Flynn, and Mr. Cagney were new names on the list, toppling from the popular decalogue Myrna Loy, Robert Taylor, and Jane Withers.

### CENSORSHIP

Censorship, as usual, provided some of the most irritating and amusing incidents of the year. The most famous case was that of "Harvest," a French film produced by Marcel Pagnol from the novel by Jean Giono, which was banned by the New York State Board of Censors as "obscene," was passed in its entirety by the higher authority, the Board of Regents, on the appeal of its distributor, and subsequently won the New York Film Critics' award as the best foreign-language picture of the year. It was, of course, not obscene at all, a fact which unquestionably disappointed some of those who went to the theatre in the hope, stimulated by the censors' action, of seeing something "spicy."

The New York Board also banned the Warner film, "Yes, My Darling Daughter," adapted from the play of that name, but passed the film after a few scenes had been deleted. Ironically, the deletion of these scenes permitted spectators to place their own, and the worst, construction upon a few sequences that the producers, in deference to the Hays code, had



been careful, in the earlier version, to show were quite innocent. They also banned "Hitler, Beast of Berlin," but passed the film when its title was changed to "Beasts of Berlin."

Among the other censorial highlights of the year were: France in April banned all Warner films for two months because of its production, "Devil's Island," which, in French eyes, presented administrators of the French penal colony in an unsympathetic light. Italy first rejected the Goldwyn film, "The Adventures of Marco Polo," but passed it after changing the name of Marco Polo to MacPool and identifying him as a Scotsman. Britain banned the French film, "Entente Cordiale," because it overstressed Edward VII's connection with the Anglo-French pact and because the monarch was of too recent date to be portrayed on the screen. (Victoria could not be screened until 50 years after her death.) The Lynn (Mass.) Chapter of the Women of the Moose wanted to impose a ban on all films containing actors or actresses who had been divorced. The story was printed locally under a headline reading, "They'll Get Tired of Shirley Temple."

### FOREIGN FILMS

Foreign films slumped sharply during the year. The war naturally unsettled the British studios which were just beginning to recover from the over-expansion, and explosion, of the year before. "Four Feathers," "Clouds over Europe," and "U-Boat 29" were the notable English films. "Green Hell" was about the best of the German films, judging by the few this writer saw. Italy's pictures were large, costly, and of less value dramatically than as spectacles and pageants. "Scipio Africanus" and "Giovanni de Medici" were typical of these.

The French film, which had great vogue in 1938 and deservedly, fell off badly. "Harvest" was an exception; so was "The End of a Day." Among the other commendable French offerings were "Rasputin," "Entente Cordiale," and "Port of Shadows." As the year drew near its close, however, the gay Gauls grew gloomier and gloomier and the burden of tragic despair borne by one picture after another made it difficult to consider them entertainment, even had they been well-played, well-written and well-directed—and they were not.

### PERIODICAL PUBLICATIONS

#### *American Architect*

572 Madison Ave., New York City.

#### *American Cinematographer*

6331 Hollywood Boulevard, Hollywood, Calif.

#### *American Home (The)*

444 Madison Ave., New York City.

#### *American Journal of Archaeology*

Archaeological Institute of America, Columbia University, New York City.

#### *American Magazine of Art*

American Federation of Arts, Washington, D.C.

#### *Antiques*

40 East 49th Street, New York City.

#### *Architecture*

497 Fifth Avenue, New York City.

#### *Architectural Forum*

220 East 42nd Street, New York City.

#### *Architectural Record*

119 West 40th Street, New York City.

#### *Art Digest*

116 East 59th Street, New York City.

#### *Art News*

136 East 57th Street, New York City.

#### *Arts and Decoration*

116 East 16th Street, New York City.

#### *Cue*

6 East 39th Street, New York City.

#### *Design*

Columbus, O.

#### *Etude*

1712 Chestnut Street, Philadelphia.

#### *House and Garden*

Greenwich, Conn.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

### *Modern Music*

113 West 57th Street, New York City.

### *Museum News*

Smithsonian Institution, Washington, D.C.

### *Musical Courier*

119 West 57th Street, New York City.

### *Musical Digest*

119 West 57th Street, New York City.

### *Musician (The)*

115 West 37th Street, New York City.

### *Octagon*

1741 New York Ave., N.W., Washington, D.C.

### *Parnassus*

137 East 57th Street, New York City.

### *Photoplay*

122 East 42nd Street, New York City.

### *Prints*

1819 Broadway, New York City.

### *Professional Art Quarterly*

18 East 48th Street, New York City.

### *Stage (The)*

50 East 42nd Street, New York City.

### *Theatre Arts Monthly*

40 East 49th Street, New York City.

### *Variety*

154 West 46th Street, New York City.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

### GENERAL

ACADEMY OF MOTION PICTURE ARTS AND SCIENCES, Taft Bldg., Hollywood, Calif.

AMERICAN ACADEMY OF ARTS AND LETTERS, 633 W. 155th St., New York City.

AMERICAN ACADEMY OF ARTS AND SCIENCES, 28 Newbury St., Boston, Mass.

AMERICAN ACADEMY IN ROME, 101 Park Ave., New York City.

AMERICAN CERAMIC SOCIETY, 2525 N. High St., Columbus, Ohio.

AMERICAN FEDERATION OF ARTS, THE, Barr Bldg., Farragut Sq., Washington, D.C.

AMERICAN FINE ARTS SOCIETY, 215 W. 57th St., New York City.

AMERICAN INSTITUTE OF ARCHITECTS, 115 E. 40th St., New York City.

AMERICAN NUMISMATIC SOCIETY, 156th St. and Broadway, New York City.

AMERICAN SCENIC AND HISTORIC PRESERVATION SOCIETY, 287 Convent Ave., New York City.

ARCHAEOLOGICAL INSTITUTE OF AMERICA, Columbia University, New York City.

ARCHITECTURAL LEAGUE OF NEW YORK, 115 E. 40th St., New York City.

ARTISTS GUILD, 9 Rockefeller Plaza, New York City.

FINE ARTS FEDERATION OF NEW YORK, 115 East 40th St., New York City.

GRAPHIC ARTS BOARD OF TRADE, 136 Liberty St., New York City.

HISPANIC SOCIETY OF AMERICA, THE, 156th St., West of Broadway, New York City.

MUNICIPAL ART SOCIETY OF NEW YORK, 119 E. 19th St., New York City.

NATIONAL ACADEMY OF DESIGN, 175 W. 109th St., New York City.

NATIONAL ALLIANCE OF ART & INDUSTRY, 119 E. 19th St., New York City.

NATIONAL ASSN. OF WOMEN PAINTERS AND SCULPTORS, 42 W. 57th St., New York City.

NATIONAL INSTITUTE OF ARTS AND LETTERS, 633 W. 155th St., New York City.

NATIONAL SCULPTURE SOCIETY, 115 E. 40th St., New York City.

NEW YORK SOCIETY OF ARCHITECTS, 101 Park Ave., New York City.

SOCIETY FOR AMERICAN ARCHAEOLOGY, 10 Frisbie Street, Cambridge, Massachusetts.

SOCIETY OF ILLUSTRATORS, 334½ W. 24th St., New York City.

SOCIETY OF INDEPENDENT ARTISTS, 19 Bethune St., New York City.

## XXVI. THE ARTS

### DRAMA

AMERICAN SOCIETY OF COMPOSERS, AUTHORS AND PUBLISHERS, 30 Rockefeller Plaza, New York City.  
 DRAMA LEAGUE OF NEW YORK, Hotel Woodstock, 127 W. 43d St., New York City.  
 DRAMATISTS' GUILD, 6 East 39th St., New York City.  
 ENGLISH FOLK DANCE SOCIETY, 155 E. 45th St., New York City.  
 EPISCOPAL ACTORS GUILD, 1 E. 29th St., New York City.  
 INTERNATIONAL THEATRICAL PLAY BUREAU, RCA Bldg., New York City.  
 MOTION PICTURE FOUNDATION OF THE U. S. OF AMERICA, 247 Park Ave., New York City.  
 MOTION PICTURE PRODUCERS AND DISTRIBUTORS OF AMERICA, INC., 28 W. 44th St., New York City.  
 THEATRE GUILD, INC., 245 W. 52nd St., New York City.

### MUSIC

AMERICAN GUILD OF ORGANISTS, 1270 Sixth Ave., New York City.  
 CANTORS REGISTRY, 95 St. Marks Pl., New York City.  
 CHORUS EQUITY ASSN. OF AMERICA, 117 W. 48th St., New York City.  
 GRAND OPERA CHORAL ALLIANCE, 276 W. 43d St., New York City.  
 GRAND OPERA GUILD, 250 W. 57th St., New York City.  
 JEWISH THEATRICAL GUILD, 1560 Broadway, New York City.  
 NATIONAL BUREAU FOR THE ADVANCEMENT OF MUSIC, 45 W. 45th St., New York City.  
 NATIONAL MUSIC LEAGUE, 113 W. 57th St., New York City.  
 ORATORIO SOCIETY OF NEW YORK, 113 W. 57th St., New York City.  
 PHILHARMONIC SYMPHONY SOCIETY OF NEW YORK, 113 W. 57th St., New York City.

## DIVISION XXVII

### EDUCATION

#### ELEMENTARY EDUCATION

By HELEN K. MACKINTOSH

UNITED STATES OFFICE OF EDUCATION

---

##### GENERAL

In the review of elementary education for the year 1938 the author made a number of statements which constitute a springboard for the 1939 summary of education at the early levels. A detailed illustration was given to indicate that education is coming to be thought of as a continuous process. The discussion presented here is an extension of the previously-expressed point of view. In the field of curriculum a bird's-eye view was given of numbers of courses, the extent to which integration is practiced, and the general nature of curriculum programs. This year emphasis is placed upon some specific curriculum problems and contributions. Based on recent facts and figures was the statement of progress in raising the standards for certification of teachers at the elementary school level. Such facts are necessary to the present discussion of the program of teacher education itself, which is given emphasis this year. Publications play an increasingly important part in presenting, modifying, and creating points of view. Each year shows an increase in number of publications which represent the thinking of groups concerned with special aspects of education. The year 1939 is no exception.

The changes or developments in elementary education which are to be chronicled for 1939 are not radical or startling. Rather they repre-

sent a further step in the evolution of school philosophy and practices. Of current interest are figures on enrollments, problems of philosophy and organization of the school, pictorial reports by city superintendents of schools, and the school survey of the year.

##### ENROLLMENT

In September a back-to-school summary of school children showed 21,750,000 boys and girls enrolled in public elementary schools. Of these, 2,060,000 were entering grade one for the first time. There were reported 124,000 one-teacher schools as contrasted with 130,000 open in 1938. There is still a general decrease in enrollments at the elementary school level and an accompanying decrease in the number of pupils taught by one teacher, except in six states, chiefly in the western part of the country.

##### THE QUESTION OF FUNDAMENTALS

Gradually voices are being raised to ask, "What are the fundamentals, and what the frills?" The three R's which were the basis of yesterday's education are being challenged. The idea is being advanced that art, music, health and physical education, the social studies and elementary science may be the fundamentals of today and tomorrow. As the school is considered more and more a social



situation, and learning an experience, the value of every subject field is considered in relation to the changes or modifications which it produces in the behavior of boys and girls.

#### CONDITIONS FOR LEARNING

At the same time, conditions for learning are being modified. If each item is thought of as being measurable on a scale of zero to 100, there have been advances in terms of points on the scale. A recent questionnaire study to which 46 cities of 100,000 population or over and 58 smaller cities made reply attempted to measure the greater or lesser emphasis upon certain conditions for learning. Placed at approximately the upper fourth of the scale were such items as (1) the more flexible daily program, (2) longer periods, (3) emphasis on creative activities, (4) use of adjustable school furniture, (5) provision of ample playground space, (6) reduction in number of pupils retained in a grade, (7) increased use of the parent-teacher conference, and (8) improved programs for the training of teachers in service. Of these items (1), (2), (3), (4), (5), and (6) are closely related to the primary unit plan, and all are significant as factors which are helping to free the school from traditional practices.

#### PICTORIAL REPORTS

Several years ago emphasis was being placed upon "selling the school" to the public. This idea has been replaced by the point of view that the public, to include parents and other citizens, should have both the feeling of ownership and responsibility with respect to schools. Perhaps as a result, schools are attempting to make education speak for itself by presenting facts and figures as far as possible in pictorial form. This trend toward the graphic is turning dry reports into bulletins of genuine interest to school people as well as to members of the community.

#### THE SCHOOL SURVEY

The school survey which drew headlines during the year, was that of the St. Louis Public Schools, made

at a cost of \$50,000. Recommendations at the elementary school level urge less formal drill and more training to equip the child to meet situations in which he must function as a member of society. Further supporting this point of view is the statement that the curriculum should be enriched especially for the child who is not book-minded but who can acquire a functional type of education, if his needs and abilities are made the basis for school work. Although none of these developments involves decided change, they point the way toward the newer conception of education as providing the opportunity for complete living on the part of every child.

#### EDUCATION FOR DEMOCRACY

At various meetings, national, state, local, and in professional magazines discussions of democracy in relation to education have taken over the spotlight. The Congress on Education for Democracy held at Teachers College in August, 1939, was aimed to bring to light, through contributors to its seminars, some practical applications of the democratic way of life. Democracy is not something to be talked about but rather actually lived in the classroom.

Some school systems are organizing for democratic administration. In one small city the superintendent has taken leadership in revamping organization. There is an all-city council of students made up of representatives from elementary, junior, and senior high schools who meet each month to discuss problems of safety, respect for property, qualities of the effective teacher, citizenship, or other questions relating to the life of the school. The educational council is made up of teachers representing all levels of instruction and all departments. They meet monthly as an advisory group to the superintendent to discuss policies and plans, although they have no power to take action of any sort. There are more than 20 teacher study groups which work throughout the year. A teacher joins a group because of a special interest in the field of study. The chairmen

## ELEMENTARY EDUCATION

and the secretaries of these groups in turn meet with the superintendent of schools each month in order to give a bird's-eye view of what has taken place.

In a western state the children in a two-room school with the help of their teachers have organized a community which is distinctly theirs. On land given them by an oil company they have laid out six streets 16 feet wide, wide enough for two cars to pass. With some advice from an architect and a carpenter about 50 children have built a printing office, post office, bank, schoolhouse, city hall, chamber of commerce, general store, police station, real estate office, model house, museum, and hospital. Some children have bought lots, by borrowing from the bank, and have built their own houses. All of the actual building has taken place outside of school hours. Each year a mayor and city council are elected as well as a president and vice-president of the chamber of commerce. The children issue money, pay taxes, borrow, make loans, and live a typical community life. This is merely one way of giving the democratic principle an opportunity to function in real life.

Schools receive all types of children, the weak, strong, healthy, lacking in vitality, bitter, happy, timid, brave, independent, dependent, helpless, resourceful, socially secure and insecure, well-dressed, ragged, slow, fast, calm, excitable—every contrast that might be thought of. These are the children of whom teachers are talking when they speak of "the child." If we are to be truly democratic in education each one must be thought of as an individual and must have an opportunity to succeed. Efforts are still being made to provide means for equalizing education in the 48 states. A statement was recently made that two of the states, which rank at the bottom of the scale in expenditures for education, put forth double the effort, in terms of their resources, than does the state which spends most. Some states are legislating to make possible free textbooks, transportation of all pupils not within walking

distance to good schools, and consolidation where it is possible. To the states that have already set up minimum school terms, others are being added each year.

In the democratic way of life the handicapped child should have as good a chance for education as does any other child. It is not surprising, therefore, that interest continues in organization of special instructional facilities for those children who deviate from the normal in physical, mental, or emotional traits to such an extent that they can not make progress in a regular classroom. This year more children than ever before are enrolled in special classes in city school systems. At the same time there is an attempt to keep a balance between segregation from normal groups, and integration of the special class program with that of regular classes. The provision of various types of clinics for the guidance of exceptional children; the transfer of the educational program in state residential institutions to state departments of education; and the efforts being made to secure funds for state programs in rural areas all represent means for helping the handicapped child to live as richly as any other child.

Among the pronounced trends in elementary education is the emphasis placed upon the adjustment and guidance of the pupil—the adjustment of the pupil to the school and of the school to the pupil. In this connection it is pointed out that now more than at any previous time the work of all school services having to do with this function of education, is being coordinated as a basis for determining a suitable total educational program for the child. The trend is more and more toward the consideration of the pupil as a unit being, rather than as a composite of mental abilities, traits, emotions, and physical endowments.

This philosophy of adjustment and guidance services for elementary school pupils is exemplified in the modern child guidance clinic. Such a school service has for its objective: (1) analysis of all phases of the

## XXVII. EDUCATION

pupil's life that are significant for his educational growth, (2) analysis of environmental factors that may affect his education, (3) determination in the light of (1) and (2) of a program for his educational development.

To realize this objective the following personnel services and practices are usually to be found where a guidance program is an operation: psychologists, psychiatrists, and physicians who independently test, examine, and report on the pupil; visiting teachers, attendance officers, and other personnel who study the home life and other environmental conditions of the pupil and his behavior in them; social worker and social agencies that may have pertinent information on the family; juvenile court officials who may have significant knowledge of the pupil; teachers and principals who have information on the problems the pupil has encountered in school and on the attitude of his parents relative to them. From a study of such information an intelligent understanding of the pupil is possible. As a follow-up an adjustment program may be attempted with the assistance of curriculum experts.

The library can bring to children, rich and poor, city or country, the opportunities for wide experiences with books. The bookmobile, the traveling library, the room or school library may be the means. Approximately 3,000,000 more persons now have access to public library facilities than was the case in 1934. One of the reasons for this change was the fact that the lowered postal rates on books have released funds or influenced communities to spend money for books. Statistics collected for five months showed an estimated annual savings to libraries and schools of \$1,000,000 and a calculated additional use of 3,250,000 volumes as a result of the low postal rate. Further developments can be expected if the new rate is extended beyond the present trial period. Some state legislatures have granted increased state aid for the purchase of library books, which are then secured by pooling resources on a county or state

basis and with the advice of some central agency. Library service is another function of the school which works toward democratic living.

Education for democracy involves actual practice in democratic living. Such practice calls for democracy in the school organization itself, in the classroom experiences of children, in the equalization of opportunities for education on the part of all children—rural, city, handicapped, normal.

Increasingly it is recognized that child and adult education must go hand in hand. At the nursery school level parent cooperation is a required part of the program. In the kindergarten, teachers have done a great deal toward securing the voluntary cooperation of parents. As the child has progressed through the grades the degree of cooperation on the part of parents has lessened until the adolescent period is reached. Through the use of new-type reports to parents and the parent-teacher conference there is more emphasis upon securing the same degree of understanding and participation of parents in a home and school program as is found in the primary school. To the extent that this is true some of the breaks or gaps now apparent in elementary education will be eliminated.

School administration and organization are becoming more adjusted to the philosophy of the modern elementary school. The shift to the annual promotion, the introduction of the primary unit, the elimination of grade lines, the classification of pupils on a combined chronological and social basis, the elimination of failure, are all modifications intended to contribute to the continuous growth and development of the child. Schools are adopting the point of view that when a child is said to fail, it is really the school that has failed. Teachers are capitalizing upon the child's successes. This fact makes it necessary to adopt a positive approach to every teaching and learning situation. The child becomes conscious of competing with himself rather than with others, and watches with genuine interest his acquisition of understandings, skills and abilities,



## ELEMENTARY EDUCATION

and attitudes. The development of curricula which consider the child's progress from nursery or kindergarten through the highest level of the public school, rather than in segments of two or three years each, helps to emphasize the idea of continuity in the child's mental, physical, social, and emotional development.

### THE CURRICULUM AND CHILD DEVELOPMENT

The term curriculum is given many different meanings. It is interpreted narrowly enough to apply to a group of courses of study developed on the one hand in detail or on the other merely in broad outline, or to all the experiences of educational value either within or without the school. Diversity is the keynote in present courses of study. Foreign educators expect to find in this country, as in their own, a national system of education. As the 1938 chapter on elementary education pointed out, courses of study of all types—state, county, and city—and at all levels now number far more than 50,000. At the present time, one of the best explanations of this situation is the fact that individual communities through leadership of state departments of education or schools of education in universities or teachers colleges, are building courses to fit the needs of boys and girls in each town or city. Frequently leadership takes the form of bulletins on the organization of teacher study groups, on the conduct of a community survey, on natural resources of state or county, on innovating practices in classrooms, or on guidance programs. With such basic materials teachers can build their own curriculum. The idea is gaining acceptance that the well-prepared teacher knows both boys and girls and the materials of learning, so that the teacher can assume a great deal of freedom in interpreting a course of study or in modifying it.

Mention must be made of the ways in which new experiences are being included in the curriculum. To the accepted list of learning situations involving reading, writing, arithmetic, spelling, language, health, art, music,

physical education, social studies, and elementary science have been added safety, citizenship, and character education. Educators are recognizing the fact that these fields must not be considered as additions to the curriculum but must be made an integral part of all school living if they are to be effective.

Each year adds to the list of schools which have installed radios in each classroom as a means of taking advantage of the many offerings now on the air for children of the elementary school level. Visual aids in the form of maps and charts, excellent still pictures, film strips, slides, and movies are recognized as necessary equipment in the school of today. The possibilities for using these two important aids to learning are still largely undiscovered. The mere purchase of a radio or a movie projector and films does not insure that increased educational values will be the result.

Child experience as the basis for all real learning is recognized in school programs of today to a much greater extent than ever before. A recent publication of the Educational Policies Commission describes the situation with respect to reading as it applies to the adults of today. There are those persons who can not read, those who have some ability but never read anything, and those who possess skill in reading but never read anything of significance.

It can be assumed that most of the adults of today had reading experiences which emphasized the acquisition of skills and the exposure to certain required classics, rather than starting with a meaningful and interesting situation through which skills were developed naturally, and through exposure to a wide variety of good reading material from which individual choices could be made. This latter approach to reading is the one accepted today. The principle represented in the illustration is being applied to all types of learning situations.

Activities which were first termed extra-curricular were graduated to a co-curricular basis, and now are found



as a regularly accepted part of the daily school program. Clubs of all sorts, handicrafts, Junior Red Cross projects, school gardens, excursions, all find a place for themselves in the immediate needs and interests of boys and girls. This enrichment of the school program not only helps to meet the problems of those children who are not book-minded, but broadens the experience of all boys and girls.

The special needs and interests of rural children are being given greater prominence. During 1939 a new group called "The Committee on Rural Education" and financed by the American Farm Foundation has been set up. As its objectives it has proposed (1) to discover and disseminate materials and practices of value to rural schools, (2) to encourage the organization of regional, state, and local councils on rural education, (3) to carry on studies in the field of rural education, (4) to cooperate with other agencies on a program for rural life, (5) to secure funds for scholarships for outstanding rural teachers, and (6) to stimulate teacher education institutions to carry on in-service training programs for rural teachers. In a broad sense this whole program is aimed toward the improvement of the rural school curriculum.

#### TEACHER TRAINING

The year 1939 marks the centennial of the public normal school in this country. Not only those colleges which have existed for 100 years but all institutions interested in the preparation of teachers are taking stock of the accomplishments that are a matter of record. Today there are 247 teachers colleges in the United States, including public and private institutions. In addition, liberal arts colleges and junior colleges train some teachers. Although many teachers, colleges offer a four-year course, and although states are raising their requirements for certification, the teacher of today is usually equipped with two years of training, in contrast to the brief term which was customary in 1839.

Curricula of teachers colleges are being examined and evaluated to a greater degree than before because of the criticisms of the teacher product. If the principles of teaching and learning are the same for all levels of instruction, then prospective teachers should learn to do by doing, rather than by listening or observing or by practicing in situations which are not at all like those in which they will teach. A number of teachers colleges are pioneering in the field of apprentice teaching. The plan is worked out in various ways, but involves in each case a master teacher with whom the student is placed for a term or a semester. There under actual teaching conditions the student works consecutively for several months instead of for an hour or two a day. The student lives in the community and learns under the guidance of the master teacher how problems of school-parent-community relationships are solved.

Various special interest groups are also concerned with the problems of teacher education. There is a definite effort being made by parent education workers to secure a unit or a part of a unit of instruction for students in teacher-training institutions so that they may be aware of the techniques and programs of good home and school cooperation. In one state the parent-teacher association distributed 900 copies of their handbook to 1939 graduates of teacher-training institutions as a means of making them aware of the program.

In eight states at the present time there are laws which expressly provide for the certification of school librarians. In 23 other states the certifying authorities have adopted regulations for the certification of school librarians. The remaining states have no specific laws on the certification of librarians, and local boards of education regulate the employment of school librarians.

During the year the American Council on Education set up its Commission on Teacher Education to carry on a cooperative study of both the preparation of teachers and their continuing education. Selected uni-

## ELEMENTARY EDUCATION

versities, liberal arts colleges, state teachers colleges, Negro colleges, and public-school systems are cooperating.

### PROFESSIONAL MEETINGS

The conception of the nature and purpose of the teacher's meeting is constantly changing. In the past year or two especially, there has been a reaction against the speaker-audience type of situation in which the speaker had all the activity, and the listeners were usually passive. In contrast to this so-called inspirational type of meeting is the general meeting to which are related discussion groups or seminars, in which a speaker may set the stage and raise problems, but each individual has an opportunity to make a contribution. The panel discussion in all its forms, the workshop, the study conference, the study group, the clinic with the resource expert available for consultation, may all be varied to fit the needs of specific situations.

Whatever the procedure adopted, teachers are at work on a problem or problems which are real and vital because they have come out of classrooms, and the tentative solutions will be taken back into the learning situation for practical tryout. The older teacher's institute was limited to two or three days, and was then forgotten for the rest of the year. The new concept of the teacher's meeting makes possible continuous concentration on a problem over a period of time.

The various types of meetings enumerated here were used in the conferences held by many educational organizations during the year in national, regional, state, and local groups.

### PUBLICATIONS

Yearbooks of various educational groups offered an index to educational thought for the year. Those national in scope and which have a bearing upon elementary education are listed here. Various departments of the National Education Association pro-

duced yearbooks as follows: American Association of School Administrators, *Schools In Small Communities*; Classroom Teachers and the American Educational Research Association, *Implications of Research for the Classroom Teacher*; Elementary School Principals, *Enriching the Curriculum for the Elementary School Child*; Rural Education, *Community Resources in Rural Schools*; and Supervisors and Directors of Instruction, *Cooperation, Principles and Practices*. Other yearbooks produced by groups include those of The National Society for the Study of Education, *Child Development and the Curriculum* (Thirty-eighth Year-book, Part I) and The John Dewey Society, *Democracy and the Curriculum*.

The publications of other groups or organizations of which mention should be made include *Social Services and the Schools*, published by the Educational Policies Commission; the *Handbook of English for Boys and Girls* by the National Conference on Research in English; and numerous bulletins of the Association for Childhood Education such as "Equipment and Supplies, A List of Recommended Materials."

The United States Office of Education has issued bulletins, pamphlets, leaflets, and circulars such as "Teaching Aids for Teachers," "Elementary Education 1930-36," "Hospital Schools in the United States," "500 Books for Children," and the "Know Your Schools" series which have a direct application to the elementary school field.

These titles indicate the wide variety of fields in which teachers and teaching groups are exploring, from the area of philosophy to the practical problem of selecting equipment and supplies for the individual classroom. Although present contributions are valuable and helpful, there are many unsolved problems in elementary education which need experimental attack by groups rather than individuals if satisfactory solutions are to be found.

## SECONDARY EDUCATION

BY ORLIE M. CLEM

SCHOOL OF EDUCATION, NEW YORK UNIVERSITY

## OBJECTIVES

The tendency to define the major objective of secondary education as "liberal education" gains in emphasis. In accord with this objective, the Board of Regents of New York State mandated during 1939 the requirement of the masters degree for beginning secondary teachers. The additional year should enable teachers to enrich their own liberal background. New examinations for teacher selection, developed during the year by the American Council on Education, have a similar aim.

## INTEREST IN ALL YOUTH

That secondary education should be interested in all youth seems to be more clearly recognized among educators than in 1938. Dr. Francis T. Spaulding, reporting a comprehensive nation-wide study to the National Association of Secondary School Principals, February, 1939, emphasizes that meeting the needs of the non-academic pupil is the most important problem of principals. Reports of the American Youth Commission issued in 1939 indicate that, of America's 21,000,000 young people between the ages of 16 and 25, almost 5,000,000 are out of school and out of work; also, that 43 per cent of those employed consider they are in dead-end jobs. Spaulding's study shows, however, that high school principals have not yet accepted "out-of-school youth" as their responsibility.

Yet secondary school principals are for the most part continuing to limit their own attention to such educational problems as crop up within the school's four walls. Of the nearly 2,000 principals who replied to the Committee's questionnaire, only 38 reported that they were concerned with the extension of the secondary program to groups not now adequately served.

## PROGRESSIVE EDUCATION

The Progressive Education Association, during the year, carried on the work of the various committees, attempted some preliminary evaluations of work as conducted in the cooperating schools of the Eight-year Study, and projected the Summer Session Workshop.

A continuing major task of the Progressive Education Association is to evaluate the work of the cooperating schools in the Eight-year Experiment. Each school in the Study is solely responsible for the curriculum and educational experiences which it provides for its pupils. No fixed curriculum is forced upon any cooperating school. Hence, conventional and standardized evaluating measurements of achievement are inadequate. In last year's report, new types of testing instruments devised by Dr. J. W. Wrightstone and Dr. Louis Rath of Ohio State University were discussed. The new tests were designed to measure attitudes and points of view rather than mechanical learnings. For example, they revealed that a ten-day tour to the West Virginia coal fields influenced a pupil's consistency and liberality in point of view as much as two-year's normal classroom work. During 1939 a considerable body of material was published, describing efforts to evaluate the work of the schools in the Eight-year Study. Dr. Mary Harden, Horace Mann School, provided a comprehensive illustration, *Teachers College Record*, February, 1939, of the efforts of one school to evaluate by the Progressive techniques. In this school, such criteria as attitude tests, interest questionnaires, pupil diaries, and records of outside free activities are used.

The Summer Session Workshop represented an innovation in the field of summer study for secondary school teachers. The workshops were held



## SECONDARY EDUCATION

in connection with the summer session of several colleges and universities. As the term "workshop" indicates, the purpose was to provide an opportunity for the consideration of real educational problems. The following excerpt indicates the nature of this recent innovation of the Progressive Education Association:

"A Progressive Education Workshop in secondary education will be conducted in this year's Summer School at Colorado State College of Education, Greeley.

"The College has taken over the new Meeker Junior High School of the Greeley city school system for the exclusive use of the Workshop and a separate library. There will be a full-time staff of authorities in the field of secondary education—curriculum, guidance, adolescent problems, evaluation, administration, contemporary life, core-curriculum, the arts, language arts, mathematics, science, and social studies. Study will be based upon individual and common problems."

### COMMUNITY-CENTERED SCHOOL

A genuine interest in the community-centered school was maintained in 1939. The 1939 yearbook of the National Council for the Social Studies heralded the title, *Utilization of Community Resources in the Social Studies*. The American Youth Commission published a handbook entitled, *How to Conduct a Community Survey*. N. E. Bingham, *Teachers College Record*, May, 1939, outlines a comprehensive technique for conducting community trips.

### NEW INSTRUCTIONAL AIDS

Mechanical aids and devices are adapted to more varied use. Olympia and Centralia High Schools, Washington (State), conduct an interscholastic debate by radio. Roy E. Priebe, James A. Garfield High School, Los Angeles, reports an experimental study of the slow motion picture as a coaching device for the high jump. He indicates that it improved achievement. In the use of the sound system, Jarrett Junior High School,

Springfield, Mo., one student reads his favorite poem; another pupil explains the assembly program for the afternoon; a pupil from the science class reads the barometric pressure and gives the weather forecast.

### RELATION OF CURRICULUM TO EXTRA-CURRICULUM

The movement toward integration of school subjects challenges the use of a separate extra-curricular period in the daily schedule. Integration tends to merge the curricular and the extra-curricular. Frequently, enterprising schools exemplify the creed of L. P. Jacks, headmaster of a well-known English school:

"To the wise individual there is no dividing line between his education and his recreation, his work and his leisure, his vocation and his avocation; many times if you ask him whether he is working or playing he could not tell you which. To himself he seems to be doing both; enough if he does it well."

### SIZE OF ADMINISTRATIVE UNIT

The majority of educators agree that the best way to improve schools is to enlarge the administrative or attendance unit. Despite the accelerating movement toward centralization, an articulate group of laymen cling tenaciously to local autonomy. During the year a re-districting bill, providing for the complete "centralization" of New York State, as recommended by the Regents Inquiry, was defeated by the legislature. The 1939 yearbook of the American Association of School Administrators, *Schools in Small Communities*, reveals that nine out of every ten schools are still in communities of less than 2,500 population.

### FEDERAL AID

The Federal education bill of 1938 involved elements of Federal control, and also provided for Federal support for non-public as well as public schools. This bill was not passed by Congress. A 1939 Senate bill (S1305) was drafted to provide a compromise on the two issues of Federal control and Federal



support for non-public schools. In all probability this bill will be considered by the next session of Congress. The San Francisco summer meeting of the National Education Association approved Federal aid to education as follows: "The National Education Association again recommends increased federal participation in the support of public education without federal control of educational policies."

#### ADMINISTRATIVE STANDARDS

The Cooperative Study of Secondary School Standards has been completed at a cost of \$200,000. The year 1939 was spent revising the original standards of the experiment. The new standards developed are considered by the Cooperative Study to be more valid, more flexible, and more stimulating. They are now commercially available to all secondary schools. The entire program for evaluating and accrediting a secondary school has been officially adopted by the Middle States Association. It is probable that these newer techniques will replace the former rigid standards of the regional associations, and will be used individually by numerous secondary schools to evaluate and improve their programs.

#### TEACHER TENURE

Teacher tenure was an irritating issue in 1939. The Committee on Tenure of the National Education Association submitted its report in May. The study was based on "opinionaires" of 500 superintendents and 100 board members designed to represent a scientific sampling. It is significant that the most ardent approval of tenure by both superintendents and board members came from states in which it had been given a reasonable trial. General state legislation concerning tenure was preferred by 90 per cent of superintendents and 44 per cent of board members. Chief disapproval of tenure came from board members in districts ranging in population from 5,000 to 10,000. According to the Committee, issues on which disagreement was most acute were length of probationary period,

status of the married teacher, continued professional improvement. The National Education Association Committee made the two following major conclusions:

Teachers in tenure states are more adequately trained than in non-tenure states.

Mobility—either voluntary or involuntary changes—is less marked in states having state-wide tenure than in states where teachers are not protected.

The rigid Pennsylvania tenure law of 1937 was amended during the year to include a probationary period. In November, the New York State Teachers Association approved the extension of tenure to rural teachers.

#### PROPAGANDA

"How to deal with propaganda" emerged as a major issue for secondary education in 1939. With the outbreak of the war in Europe, numerous ideologies and "isms" sought to influence American public opinion. There was grave danger that truth would be the first casualty. Edward R. Murrow of the Columbia Broadcasting Company, speaking to America from London, said: "While I am talking in London, the greatest bomb target in the world, you have equal cause for alarm. For you, seated before your loud speakers, are the potential target of the greatest propaganda bombardment in history."

In the realm of theory, courageous proposals have been advanced for combating propaganda. Bertrand Russell, addressing the National Association of Secondary School Principals, suggested: "I should like to see people exposed in schools to the most vehement and terrific argumentation on all sides of every question. I should read to them every day, as a sort of *bonne bouche* to their history, what is said about a labor dispute first by the *New York American* and then by the *Daily Worker* so long as the labor dispute lasts, or whatever question is on."

Similarly, Dr. Clyde R. Miller, Director of the Institute for Propaganda

## SECONDARY EDUCATION

Analysis, counsels: "Of these arguments, statements, or opinions, for and against, students may ask such questions as these: What does the statement say? What does it mean? Who says it? What are his interests? Why does he say it?" Dr. Miller's Institute for Propaganda Analysis clearly distinguishes seven common propaganda devices as follows: name calling—he is a communist; glittering generalities—make the world safe for democracy; transfer—*Gott mit uns*; testimonial—Borah says embargo repeal means war; plain folks—Roosevelt, "My Friends;" card stacking—"build up" of Landon; band wagon—everybody's doing it.

In the realm of secondary education practice, valuable propaganda activities have been initiated. The Institute for Propaganda Analysis, as a non-profit organization, publishes a monthly bulletin on current propaganda. In 1939 numerous high schools used this publication and other Institute materials for teaching propaganda analysis. Dr. John W. Studebaker, United States Commissioner of Education, broadcast during the year from the Office of Education a series of 26 nation-wide programs. These programs entitled, "Americans All—Immigrants All," reflected the rich contributions of various races to our culture.

During the year the Instructional Committee of the Board of Education of New York City recommended that assembly programs on tolerance be introduced into New York City's public schools. Commissioner Studebaker commended this innovation: "Teaching tolerance is a major problem of 1939 for American education. I congratulate the New York City Board of Education on its current action to promote school assemblies and instruction in general leading to racial and religious tolerance. I commend the action of the New York City Board of Education to the attention of school boards throughout the nation."

The implementation of the New York City recommendation is ingeniously illustrated by an assembly playlet on propaganda at the Evan-

der Childs High School. The playlet skilfully adapted ideas from Walt Disney and also from the Institute for Propaganda Analysis. The title was "Snow White and the Seven Propaganda Devices." Beautiful Snow White (Gullible Public) is unable to make up her mind about the Neutrality Act. Pulling her in every direction are the seven little dwarfs of propaganda—Name Calling, Glittering Generalities, Transfer, Testimonial, Plain Folks, Card Stacking, and Band Wagon. After a severe buffeting, Snow White is saved from utter destruction by the charming prince (Critical Thinking).

The Benjamin Franklin High School of New York City has mobilized community resources in combating propaganda and promoting broad-mindedness and tolerance. Italian, Irish, Polish, Puerto Rican, and Spanish boys of this school recently sent joint condolences to the parents of a Spanish classmate who had died. Principal Leonard Covello commended the boys as follows: "I am glad that you boys in Franklin are taking the lead in an effort to wipe out prejudice and hate for people who may be of a different race, or who speak a different language, or who practice a different religion. Let us strive to live on a friendly basis with all our neighbors—remembering that a gesture of sympathy is more manly and noble than a gesture of hate."

For courage and enterprise in confronting propaganda, All-America honors should go to the Forum Club of the Westfield, N.J. High School. This club produced a program for the school entitled, "Propagandizing the Propagandizers." It consisted in dramatizing techniques used by specific countries. Four five-minute speeches were delivered by students on the following subjects: Communist Propaganda Techniques, Propaganda in Nazi Germany, Mussolini's Methods, Propaganda at Home. After each speech, propaganda methods of the four countries were demonstrated. The demonstration was concluded with the national anthem of the respective country. In the bally-hoo

effects of each demonstration, the high school band played an important rôle. From the Gramophone Shop, recordings had been obtained of the German *Horst Wessel Lied*, the Italian *Giovanezza*, and the Communist *Internationale*. The sponsors of this program believed that students had improved in immunization, that is, resistance to propaganda. No doubt they had a better understanding of Voltaire's statement to Rousseau: "I do not agree with a single line you have written, but I would go to the death for your right to say it."

### DEMOCRACY

In 1939 leaders in secondary education generally agreed that the public schools should indoctrinate in the principles of democracy. Spaulding in a comprehensive, nation-wide canvass of opinion on secondary school principals, concludes: "The replies from the schools place unmistakable emphasis on the school's growing awareness of the need to teach, act, administer, and indoctrinate for democracy."

A few years ago, when the District of Columbia forbade its teachers to instruct pupils concerning communism, liberal leaders revolted. Likewise they have chafed under the restrictions of teacher oath laws. They have protested against numerous infringements upon academic freedom. But today liberals and conservatives alike take shelter under the mantle of democracy. Dr. George S. Counts reports that several years ago he inquired of Lunacharsky, Commissar of Education for the Russian Republic, whether Russian educators indoctrinated children in communism. Lunacharsky replied that Soviet teachers merely told the children the truth about human history. As a consequence, practically all of the more intelligent boys and girls adopted the philosophy of communism. Similarly, in the chaotic world scene, American education should seek positively to make democracy prevail in America.

If secondary education proposed to practice 100 per cent democracy, it would present the advantages and

disadvantages of various ideologies, such as fascism, communism, Nazism, and democracy, with disinterested objectivity. The student would then be entirely free to make up his own mind to choose. With incisive frankness, American educators reject such a disinterested technique. They sincerely maintain that teachers should "load the dice" in favor of democracy. They offer two reasons. The first is the grave menace from totalitarian ideologies. No less an objective historian than Dr. Carlton J. Hayes of Columbia University warned the American Philosophical Society: "The dictatorial totalitarianism of today in Germany, Italy and Russia is a revolt against the whole historic civilization of the West. It is a revolt against the moderation and proportion of classical Greece, against the order and legality of ancient Rome, against the whole vast cultural heritage of the Christian Church in the Middle Ages and modern times, against the enlightenment, the reason and the humanitarianism of the eighteenth century, and against the liberal democracy of the nineteenth."

A second reason for "loading the dice" in favor of democracy is to assure for it an equal chance in the race of competing and conflicting ideologies. "Indoctrination Through Education" is the first tenet of totalitarian dogma. In self-defense, American education can not take democracy for granted. In this area Dr. Edward H. Reisner defines clearly the function of the school: "There is every reason to hold that the schools of a democracy should inculcate the same devotion to the values of the democratic way of life as authoritarian states are doing for the systems which they favor. And by that is not meant partisan and chauvinistic adherence to a label, but deep-seated appreciation of the values of democracy and enlistment in the long struggle to make those values more and more a reality in American life. In making such a commitment for our public schools we are embodying in their program the richest social values which we as aspiring, stumbling hu-



## SECONDARY EDUCATION

man beings know. To do less would show us recreant to our opportunity and our duty."

The year witnessed constructive efforts to implement the above point of view in the secondary schools of the nation. In the first month of the year, Dr. John W. Studebaker, United States Commissioner of Education, said: "The Office of Education has seen clearly that organized education in the United States is challenged to prove its value as a democratizer. I urge the members of school boards and teachers of the United States to give immediate attention to the problem of adapting the school curriculums and schedules to assure an adequate and meaningful treatment of the ideas, aims, and spirit of democracy. There is no greater issue today before American education."

Dr. Alexander J. Stoddard, chairman of the Educational Policies Commission of the National Education Association, said in summarizing the February 1939 meeting of this association: "The educators attending this convention seem to be ten times as concerned about democracy as they have been at past conferences. If democracy is a way of life, and we believe it is, then we should personalize its meanings and processes in life itself. Not until our homes, our schools, our churches and all other institutions accept the democratic pattern; not until our industrial, social, economic and other affairs are operated on the give and take of the democratic process; not until the everyday activities of mankind are actuated and conducted on the principles of democratic philosophy—not until then will we truly live in a democracy."

The Committee on Philosophy of Education of the Progressive Education Association, at its annual meeting, proclaimed: "Education must make a positive move in support of democracy. Educators as a whole should work under a common loyalty for the clarification of democracy. Educators are called upon to accept a positive responsibility for the selection and guidance of experiences that foster the values of democracy. Edu-

cation should be put in the service of the democratic culture."

President Roosevelt, in his proclamation for American Education Week, said: "In our schools our coming generations must learn the most difficult art in the world—the successful management of democracy. Let us think of our schools 'during this American Education Week not only as buildings of stone and wood and steel; not only as places to learn how to use hand and brain; but as training centers in the use and application of the rule of reason in the affairs of men. And let us hope that out of our schools may come a generation which can persuade a bleeding world to supplant force with reason.'"

### EDUCATION ON THE DEFENSIVE

As reflected in school support, secondary education in 1939 was on the defensive. The attack on the cost of education re-echoed the critical period of a decade ago. When the Regents Inquiry was launched in 1936 there were many who suspected that its basic purpose was to reduce the cost of education in the State of New York. The announcement of the Inquiry staff increased their suspicion. In general, the directors were not distinguished for their advocacy of liberal financial programs.

The publicity accompanying the publication of the Regents Inquiry produced a negative total effect upon the support of schools. Such screaming headlines as: "Gulick Finds State's School Waste \$38,000,000"; "Spaulding Says State's High Schools Are Inefficient"; "Wilson Says State's Schools Fail to Teach Citizenship"; constantly confronted the taxpayer's eye. Such revelations, reinforced by the cost of the Inquiry and the prestige of the Inquirers, were devastating. The honest layman wondered if an educational racket had been exposed. It is true that Dr. Gulick attributed most of the waste to small units in rural areas; that he recommended that money saved should be spent for other educational services. It is true that Spaulding found some good practices in New York State high schools. It is true that Wilson



discovered some evidence of effective citizenship teaching. These findings shared no prominent place in the public press; on the contrary, it was the inadequacies, the weaknesses, and the wastes. The cumulative effect of such publicity was a severe blow to public education.

Educational workers generally in New York State recognize the negative influence of the Regents Inquiry in terms of financial support. On Nov. 3, 1939, a taxation committee of the New York State Teachers Association, Dr. William H. Holmes, chairman, reported as follows: "The Regents Inquiry has misled the people of a great state into believing that they can have the best in education for many millions of dollars a year less than the findings of the inquiry show the cost of the best to be."

A Regents Inquiry Evaluating Committee of the New York State Teachers Association, Dr. John Dodd, chairman, reported to the Association at its annual meeting, Nov. 20, 1939: "The Inquiry is a failure in convincing the public that the best in education calls for larger expenditures than have thus far been made. Eloquent proof that the report has not, at least yet, made much impression is found in the fact that a majority of the legally elected representatives of the citizens in this State voted in May, 1939, to repudiate 10 per cent of the State's contract obligation to support the school program already in operation."

The experience of New York State and New York City in 1939 provides a striking symbol of "Education on the Defensive." Governor Lehman in this state recommended the full amount of state aid as provided by the Friedsam Commission. The legislature reduced the governor's budget by means of a technique later declared unconstitutional by the courts. The governor called a special session which sustained the original cut of \$10,000,000. The legislative cut produced budgetary consternation in the school districts of the state. All local school budgets were in a condition of unbalance. Districts were com-

pelled to eliminate or curtail services.

In New York City the legislative cut amounted to \$5,300,000. The local city council made an additional cut of \$3,000,000. To maintain the New York City schools on a reduced budget of \$8,300,000 has been for the Board of Education a bewildering task. During the summer and fall, kindergarten classes, community and recreation centers, adult citizenship classes, nature education, athletic centers, married teachers, summer playgrounds, salary increments, voluntary contributions of administrative officers, evening schools, dual jobs, supplies and equipment, maintenance of plants, were tossed about in budgetary ping pong. Near the close of 1939, President James Marshall of the New York City Board of Education revealed some difficulties of operating under an unbalanced budget: "On October 1, the school system had a total of 481 classes of fifty or more students; 1,268 classes with forty-five to forty-nine students, and 7,588 classes with forty to forty-four students. A minimum of 1,500 children is denied the opportunity for kindergarten training because the board cannot provide a sufficient number of teachers. In some classes in the high schools children are sitting two in a seat, or in a chair in the aisle without a desk."

The influence of New York State's budget reduction program in 1939 was tremendous. Probably in no other year of the nation's history were educational eyes and ears so riveted on New York State. Three reasons for this interest were evident. First, means of communication were more adequate than in earlier years; second, there has never been an educational study of such scope, cost, and prestige as the Regents Inquiry; third, the Friedsam Commission and the Mort Formula provided a model to other states for state aid apportionment. Hence, the repercussions in the country at large from New York State's retrenchment program were incalculable.

*Survey Graphic* for October, 1931, hoisted the following statistical dan-

## COLLEGIATE EDUCATION

ger signals for the country at large: "Thirty thousand poor school districts serving 3,000,000 children are forced to curtail their school year by 3 months; 2,400 schoolhouses are locked for the year; 12,000 more schoolhouses will be locked if teachers demand full payment of salaries; 1,400,000 pupils

sit in schoolhouses condemned as unsafe or unsanitary; 1,000,000 attend classes in tents, lodge halls, stores; 500,000 go to school only half a day because of lack of space; 800,000 attend no school because their neighborhood is too poor to provide one, or they are too poor to go."

## COLLEGIATE EDUCATION

BY JOHN O. CREAGER

PROFESSOR, SCHOOL OF EDUCATION, NEW YORK UNIVERSITY

### CHIEF TENDENCIES IN HIGHER EDUCATION

It will be the general purpose of this article to sketch the leading tendencies in the field of higher education as now organized in this country. It is realized at the outset, that our definition of higher education differs from that in most other countries and that we are, and have been for some years, well aware of this fact. It is also realized that reorganization features are already in process that indicate a change of definition and a new line of division between secondary and higher education. One of the forces that leads in the direction of such reorganization is the problem presented by the student who has graduated from high school, but, like the ghost of Banquo, reappears.

### THE POST-HIGH SCHOOL STUDENT

Many articles have been written upon the post-high school student. (See "Which Way America's Youth?" by Harvey W. Zorbaugh, *Journal of Educational Sociology*, February 1938; Jacobsen, *Educational Opportunities Provided for Post-Graduate Students in Public High Schools*, a doctors' thesis at Columbia University, Contributors to Education No. 523, 1932.) In 1929-30 there were 29,225 post-graduate students in public high schools of the United States. The increase since 1919-1920 was 266 per cent, while the increase in general high school enrollment was 146 per cent. But these enrollments are

feeble testimony to the actual need for education at this age level. Of the 21,000,000 young men and women between the ages of 16 and 24, 8,500,000 are employed at some kind of work; 4,500,000 are in some type of school or college; 3,000,000 are unemployed married women, who in theory at least are not seeking employment; and 1,000,000 are either in C.C.C. camps, reform schools, penitentiaries, hospitals, or some other custodial institution. The remaining 4,000,000 are neither in school nor employed. To these might be added from 1,000,000 to 2,000,000 who are in school under protest, because there are no jobs; and at least 1,000,000 employed on P.W.A. or W.P.A. Thus a third of those between 16 and 22 "do not belong." (Douglas, *School and Society*, July 15, 1939.)

### PROPOSED SOLUTIONS

Various solutions have been proposed. From a national point of view, the Civilian Conservation Corps has been in existence since 1933. The camps are under control of the army and are now designed to take care of 500,000 men, a mere fraction of all who need attention. While there has been much criticism of its program from an educational point of view (Kennedy, *California Journal of Secondary Education*, October, 1937), it has been at least an attempt on the part of the nation to solve a problem that the educational systems of the several states had not attacked, though by our American tradition and practice, the several

states are certainly obligated to provide free educational opportunities for youth beyond high school age.

Some 20 years ago the nation took the initiative in the matter of establishing vocational education for youth in secondary schools. The Smith-Hughes Act placed the states in co-operation with the National Government in a program which has been constructive from an educational point of view in the fields of agriculture, home economics, and industry. While this act has been supplemented by other similar legislation, there is not as yet a program for youth beyond our present four-year high school, which is open to all and which constructively attacks both the problem of education and the problem of employment. The colleges and industry, together, according to the director of the American Youth Commission (Homer P. Raimsey, *Junior College Journal*, May, 1937), can not absorb more than about 60 per cent of our high school graduates. He has estimated that there were in 1937 probably between four and five millions of youth between the ages of 16 and 24 who were out of school and unemployed.

Nor can we be complacent about attempting a solution of this problem by merely extending vocational education beyond our present high school. A recent study by Miss Bostwick ("They Did Not Go to College," *Educational Research Bulletin*, Ohio State University, September 13, 1939), of the Manual Training High School in Denver, of a group of students who were graduated from that high school in 1933 and 1934 throws considerable doubt upon the effectiveness of vocational training as a means of securing employment, at least, under present conditions. She recommends cooperative work between school and industry during the last year of high school. Harlan R. Douglass of the University of North Carolina also strongly recommends the cooperative plan which he states in a recent article (*School and Society*, July 15, 1939) is already employed in nearly 500 schools and colleges in the United States. Under such a

plan the student attends school half time and works half time. This plan prolongs the school period as well as the guidance period, and defers specific vocational training until the student is better able to make a choice.

#### THE JUNIOR COLLEGE AS A PROPOSED SOLUTION

A review of the literature indicates that a solution of the youth problem has not as yet been reached. It is essentially an educational problem and its solution belongs chiefly to the field of education. The main reason for the existence of the problem lies in the fact that our American educational system is still incomplete. Boys and girls are graduating in great numbers from our high schools at the ages of 16 and 17 years. Obviously they are still a responsibility of our educational system, not a responsibility of government or of custodial institutions. In this comparatively young country our system of secondary education is not yet fully developed. In comparison with all older countries our span of secondary education is shorter. The junior college has arisen in response to a need for further education locally administered and accessible to the child while under home care and custody. Its rapid growth under local auspices is evidence of its widespread need. Practically all students of the movement agree that the junior college is not an institution of higher learning, but a school of secondary grade. It is education for the adolescent, for the youth who has not yet reached his full development. It therefore becomes, under our system of organization, a responsibility upon state and local school units to organize and support a system of secondary education which will include junior college grades.

City districts will no doubt find it easier, financially, to establish junior college units, but the country child must be provided for through a competent plan of taxing larger units, such as the county, for the support of general as well as vocational education for this last period of ado-



lescence. These young folks can not be sent to jail, says President Hutchins of Chicago; schools must, therefore, be provided. The growth of the junior college during the comparatively short period of its development gives promise that this will be done. This growth has been so great and the interest created by this new institution so phenomenal that supporters for the junior college have sprung up everywhere. In the past eight years the junior college enrollment has more than doubled, increasing from 74,088 in 1931 to 155,588 in 1938. During this same interval the number of junior colleges increased from 436 to 556 (W. C. Eels, "The Status of the Junior College in the United States," *School and Society*, Jan. 27, 1938, p. 158). The average enrollment is 453 for public junior colleges and 152 for the private. However, there are now 130 institutions with enrollments of more than 300, and 29 with enrollments of more than 1,000. Yet, while the history of the junior college movement has been one of rapid development, the four-year colleges and universities have also shown such large increases that the two types of institutions seem not to have been competitive. In fact, the junior colleges have been the cause of increased enrollments in the upper years of the four-year colleges and universities.

#### PROBABLE EFFECT OF THE JUNIOR COLLEGE UPON HIGHER EDUCATION

The junior college has been in existence long enough that we can begin to study its contributions to the solution of our educational problems and some of its effects upon our systems of secondary and higher education. It is obvious that, wherever junior colleges have been developed, they have made important contributions toward the solution of the problem of unemployed youth. Wherever young men and women may remain at home and still attend school, they have, at least, the opportunity to further their general education and, with the increasing emphasis upon semi-professions in junior colleges, can in many instances prepare them-

selves for new types of positions. The large public junior colleges in Chicago, for example, are discovering new vocations and, through analysis of the necessary activities involved, curricula are established for the training of students for these new callings. At the same time the completion of general or cultural education can be carried forward.

Much research has been devoted to "transfers," that is, graduates of junior colleges who go on to colleges and universities. The general verdict of these studies is that such students equal and in some cases surpass the general achievement of the native student who enters as a freshman. Since this process increases the relative number in the upper years as compared with the lower two years of the college curriculum, the general effect is that of raising the standards of higher education. Thus the educational dream of reformers of American higher education, *viz.* that we may, sometime, be relieved of underclassmen, is in process of being realized. Since the history of the matter indicates that it took Europe several centuries to evolve a longer secondary school and a later accession of the period of university education, we can afford to be patient.

Another important effect of the junior college concept upon our thinking in the field of higher education pertains to the matter of organization. It is probable that the term "junior college" had its origin in the universities when they began to think of the four-year curriculum in terms of "upper" and "lower" divisions and later of junior and senior colleges. But the development of the independent junior college has served to accentuate this idea, so that a more clear-cut division is coming to exist which affects curricular material, organization, and administration. The term "general college" is in use in a number of universities and a definite function has been assigned to this unit, namely, the "completion of general education." A philosophy as to what "general education" should be has ensued, and the controversy between Dr. Hutchins and Dr. Dewey



is an example of the battle of the philosophies which this problem has created. The only generalization that seems now possible is that the old atomistic character of the curriculum in the first two years of college is on the way out and the cleavage between specialization and general education has been made distinct. As to what general education at this final level should be is a problem that lies ahead.

It should be added that but one university in this country has performed a clean-cut operation in the severance of the general college from the professional schools. This is the University of Florida where the professional schools do not exist during the first two years. This seems to be a commendable piece of educational surgery.

These are but instances of the effects the junior college movement is having upon higher education. Until the public junior college has become a universal feature completing the American system of secondary education, the present colleges and universities could make a great contribution to the solution of our problems, both educational and social, if they would establish what might be termed "experimental junior colleges," thus practically as well as professionally showing their interest in a type of leadership badly needed.

#### THE PROBLEM OF SELECTION AND DIRECTION OF COLLEGE STUDENTS

If, in accord with the preceding discussion, the first two years of college should concern themselves mainly with the completion of general education, a new philosophy and a new administrative practice are necessary as to the policy of selection. Certain state universities are required by law to admit graduates from standard high schools. If the state university is to be regarded as a part of our American system of free, publicly supported education, we are in need of critically reviewing the major premise of our forefathers before we reject high school graduates from university entrance in states which have made no provision for public junior

college education. If, on the one hand, educators admit that the first two years of college are not higher education and, on the other, the state has made no provision for junior colleges, what answer can be given to youth or to the parents of youth for this lack of foresight? Private colleges may set up their requirements and assume responsibility only for a special clientele. But public education is responsible to the public. Two state universities—Ohio State and Minnesota—required by law to receive graduates of standard high schools, have addressed themselves wholeheartedly to a program for all high school graduates. Obviously, it has been found necessary to differentiate in curricula standards and methods of instruction, but the responsibility has been faced and both research and guidance are conspicuous features in these programs. (See Tyler, *Service Studies in Higher Education*, Ohio State University Press, and Johnston, *Scholarship and Democracy*, Appleton-Century Co.)

#### IMPROVING INSTRUCTION IN COLLEGE

If the colleges and universities in the United States must deal with increasing numbers of underclassmen who are immature both from the point of view of their educational attainments and their mental and physical development, it is obvious that traditional methods of instruction, based largely upon inherited European practices, must be critically revised. The lecture method has been, and probably still is, the most prevalent method used in American colleges and universities, though it should be admitted that many other methods have, within the last two decades, been used as innovations or experiments. This method, in its origin, came from the medieval universities, *via* the later universities of Europe, which, then as now, dealt with students who on the average are two years more mature than our American freshmen. Since the continental European universities do not as a rule grant the bachelor's degree, they may be roughly classified, as

compared with our own, as graduate schools. We have then borrowed from Europe a method used with graduate students and applied it to our own undergraduates; our faculty members are not only slow to change, but they invoke another inherited academic tradition, namely, the freedom-of-teaching idea, as authority for not being persuaded to change.

But approximately a score of years ago, the psychologists who had been interested in experimentation in methods in elementary and secondary schools, carried their exploration into the field of college education. So active have they been that a complete bibliography of such investigations would constitute a volume in itself.

There have been, in the main, two different methods of attack in attempts to improve college teaching. The first may be called "informal or indirect," the second, "formal or direct." They may be further contrasted by calling the one "pragmatic" and the other "scientific."

In the first category belong such innovations as (1) the honors method of study and learning, as at Harvard and Swarthmore; (2) the project method which has had but little vogue in higher education except as used in agriculture, etc.; (3) the Rollins College Workshop Method, which made a frontal attack upon lecturing; (4) certain scattered instances of individualized method.

In the second category belongs controlled experimentation which attempts to compare and measure the results of two different methods, as, for example, the lecture and the discussion method. In such investigations, the attempt has been made to take two comparable groups of students, keep all factors as nearly equal as possible, except the factor of method, and measure the results, that is, the gains in learning, by objective tests set up in terms of the objectives previously established for the course. The "literature" in this sort of experimentation has, in the last 20 years, accumulated to such an extent that it has been a full man-sized job to keep up with it and interpret its

results to graduate classes, or rather, furnish the bibliographies and have the students do the interpretation. Outstanding work in this type of experimentation has been carried on in several different universities, but the Ohio State University and the University of Minnesota may be selected as institutions which have made the most extensive contributions. Where the faculties have been granted the services of a technical expert to assist them in method of experimentation, as, for example, Ralph Tyler at the Ohio State, there has been more widespread faculty interest in such endeavor. (See Part III, 37th *Yearbook* of the National Society of College Teachers of Education, 1939, University of Chicago Press.)

#### PROFESSIONAL TRAINING OF THE COLLEGE TEACHER

The time seems to have been reached when the professional training of the college teacher is not "verboten." Such training for elementary and secondary teachers is now so well established that its necessity is no longer questioned, though many doughty intellectual battles had to be fought before such systems were established. Since teachers in higher educational institutions have not been required to hold certificates, the administration of the problem remains beyond the purview of state control. In that connection, the requirements of certificates for junior college instructors has lifted the question to the college level. Shall we require certificates of junior college instructors within a given state and not require them of teachers who give instruction at the same level in publicly supported municipal colleges and universities and in state universities? It is quite uncomfortable to have such issues raised.

A review of the history of the topic will show that it did not arise as a question of administrative strategy. In 1910, President Van Hise of the University of Wisconsin raised the question. The World War raised the issue of faculty shortage, causing raw recruits to be placed on the staffs of many institutions. As early as 1919

the Land Grant colleges began the study of the efficiency of teaching in their own institutions. The Association of American Colleges began the study of the problem of enlisting and training faculty members in 1926, and their committees made reports for the following four years. The Institute for Administrative Officers of Higher Institutions has, under the leadership of Dr. William S. Gray, given consistent attention to this problem for the last several years.

Faculties that have taken part in experimentation dealing with problems of teaching have easily been led to see the need for the study of education from a scientific point of view. As early as 1928 the University of Kentucky organized a course in problems of college teaching for members of faculties in arts colleges, teachers colleges, and junior colleges (W. S. Gray, *37th Yearbook of National Society of College Teachers of Education*, 1939, University of Chicago Press). Supervision of teaching and cooperative study of methods of improving instruction have been carried on at the Ohio State University for the past ten years. President Friley of Iowa State College has developed in his institution, by a cooperative attack on problems of college teaching, a very effective program for his own faculty. It is obvious that there is ample administrative precedent for the assumption that the college and university instructor can be improved by the study of problems of education. Yet there are comparatively few institutions that have organized and set on foot a well conceived plan and program for the pre-service preparation of college teachers.

In 1924 Dean John W. Withers organized such a program in the School of Education in New York University. This program involved a cooperative enterprise between graduate divisions of other units of the University and the graduate program in the School of Education. Each student is required to take a graduate course in the School of Education, dealing with problems of teaching, guidance, or administration at the higher educa-

tion level. If he is preparing for advisement or administrative work, he may take more than one course in the department. He is also required to take a course in methods of instruction in his special subject-matter field. If he has not already had sufficient specialization in content subjects in his special field, he secures the necessary courses either in the School of Education or in some other graduate division of New York University. Differentiated programs are offered for both the Ph.D. and the Ed.D. degrees. The enrollments in recent years in the Department of College and University Education (the department which offers the professional courses) have varied from 150 to 200 students a year. The writer's experience as head of this department for the past ten years has convinced him beyond any doubt that students at the graduate level are deeply interested in improving their effectiveness as college and university teachers. A large percentage, in fact, nearly all, of our students in this field are persons who are teaching or have taught in college or university. Most of them already hold masters degrees and are candidates for the doctorate. Their theses are usually written upon some teaching problem, a problem in the field of the history of higher education, or one dealing with guidance, organization, or administration at this level.

A course offered in the Department which has always held great interest for graduate students deals with the history and comparative study of universities. The first third of the year is devoted to a study of the medieval universities. The class then divides into groups of five or six, and each group studies the universities of some country other than our own. The light such a course throws upon our problems in higher education in this country has led to the belief that the comparative study of higher education is an effective method of attack. Some time spent in Europe two years ago, visiting some 30 universities in eight different countries, furnished the writer a wealth of new material for this course.



# EDUCATION FOR THE PROFESSIONS

## EDUCATION FOR THE PROFESSIONS

By GEORGE D. STRAYER, JR.

PROFESSOR OF EDUCATION, GEORGE PEABODY COLLEGE

### BUSINESS EDUCATION

**Trends.**—The trends in business education during 1939 were similar to the trends of the previous year. The consumer education movement has influenced business education on almost every level although in some instances the tendency has been to work against rather than to work with this movement. The George-Deen Act has continued to encourage co-operative part-time training for distributive workers. Since studies have indicated that one out of every eight employed workers in the United States is working at distributive activities and since the demand for workers in this occupational classification has increased very rapidly in recent years, the George-Deen Act has met a real need. Another trend is that toward a more functional curriculum. Instead of basing courses on one or two textbooks and emphasizing the academic aspects of the subject matter, the tendency has been to provide courses based on an analysis of business requirements under the direction of teachers with business experience. Accompanying this functional approach is an increased recognition of the possibilities of utilization of materials from the business field, including outside speakers and trade magazines, motion pictures, and the like. In some instances industrial concerns have helped to establish in-service programs for additional training of employees.

**College Level Courses.**—On the college level the theory that those pursuing a business education course should have a rather broad understanding of economics, government, sociology, and other subjects usually included under the heading of social studies has continued to be popular although in a majority of instances the business training is not as broad as the popularity of this theory might indicate. There is a different ap-

proach and emphasis on many fundamental matters between the staff of business departments or school of business and the faculty of the economics department.

**Graduate Level Courses.**—Business education courses on the graduate level have continued to attract individuals desirous of advanced training. Business concerns during recent years have found that the employment of specially trained individuals is usually worth the cost. The records which must be kept in connection with the Federal act regulating hours and wages of employees in companies engaged in interstate commerce and the records which are necessitated under the social security program have continued to provide part-time and full-time jobs for accountants. The fair price acts and other state and Federal regulations of corporate life have tended in many instances to make necessary increased efficiency if the company is to show a profit at the end of the fiscal year.

### ENGINEERING EDUCATION

**Professional Development.**—The Engineers' Council for Professional Development, established in 1932, continued during the year its study of the problems associated with professional training and professional recognition of individuals in training for engineering. The latest report of the committee, issued in October, 1939, in describing the engineering profession mentions the importance of professional consciousness and group loyalty. This report also points out that the supervision of engineers is legally by independent state boards but that engineering societies and individual engineers can do much to raise the quality of persons registered as engineers. Comparison is made with medical schools, and the idea is expressed that students in engineering schools should develop just as great



a sense of professional pride as exists among medical students. The study which was reported in 1938 by the Engineers' Council for Professional Development of the professions of accounting, architecture, law, and medicine is mentioned as indicative of conditions and problems in other professional fields. It is further stated that engineering is not the same as any other profession and that caution should be used in interpreting the movements in other professional fields.

Current activities of some of the engineering committees include: the continued effort to improve the quality of engineering candidates; the visits to engineering schools by committees of engineers selected for the purpose, and a rating of the various engineering courses included in the program; a study of methods of self-development after graduation from an engineering school; and an attempt to maintain engineering courses broad enough so that the training will enable the graduates to perform the best possible service.

**Post-Graduate Training for Young Engineers.**—A study made during 1938 was reported to the E.C.P.D. in 1939 in regard to the opportunities provided by industry for the training of recent graduates of engineering schools. An efficient training program is of undoubted value to both the employee and the employer, but arguments are constantly offered against such a program based on its cost. The author of the study found that "relatively little attention is paid to the continuation of the student's habits of study and to his opportunities for additional technical education." He also found that the industrial training courses seem to be weak in regard to business and organizational training. It was recommended that the training course should include an experience program and an instructional program, with emphasis on organization and business administration; study of the company's products, including manufacture and use; and, for the most competent young men, possibilities for additional technical education. It is stated that this can be accomplished

through better planning, and that any additional expense involved would be repaid in the long run through better service to the company by the young men included in the training program.

### LEGAL EDUCATION

**Educational Requirements.**—Forty-one of the 48 states, including over 90 per cent of law students in the United States, now require two years of college education or its equivalent before admission to the bar. The fact that four states and the District of Columbia enacted laws setting up this educational requirement in either 1938 or 1939 is largely due to the activity of the Committee on Legal Education and Admissions to the Bar of the American Bar Association. The rapid progress which has been made in the matter of educational requirements for individuals wishing to become lawyers is indicated by the fact that in 1921 Kansas was the only state to require more than a high school education.

**Legal Training.**—In 22 states and the Territory of Hawaii the graduate of a law school that is not approved by the American Bar Association is not usually permitted to take the bar examinations. Six of the 22 states exempt graduates of some non-approved law schools from this general requirement. The American Bar Association issues an approved list of law schools. The current list contains 101 law schools that enroll two-thirds of the entire number of law school students in the United States.

**Post-Admission Legal Education.**—The importance of continued education for individuals already admitted to practice was first recognized by the American Bar Association in 1937. The Association has encouraged the holding of institutes in communities where the membership in the Bar is more than 500 and has furnished assistance in making available outstanding lawyers and teachers for these meetings. Iowa has been a leader in organizing institutes for the smaller communities where the number of lawyers is less than 500. Institutes are organized and conducted for district organiza-

## EDUCATION FOR THE PROFESSIONS

tions by the state bar association. The Committee on Legal Education of the American Bar Association has suggested that the in-service training of lawyers should be continued and that the law schools in each state should help the practicing lawyers of the Bar to carry on this activity.

**Evening Law Schools.**—The American Bar Association continues to recognize some part-time law schools. The most significant change in regard to these schools is the action by the District Court of the United States for the District of Columbia providing that two years of pre-legal college work and graduation from a law school be required for admission to the bar. However, under this ruling the Committee on Admissions and Grievances was given the right to determine the equivalent of the two years of pre-legal college education. Two law schools in the District of Columbia adopted the two-year pre-legal college requirement in the fall of 1939 and increased the number of years of their part-time courses from three to four. The importance of these changes is indicated by the fact that about 12 per cent of the law school enrollment in the United States is within the District of Columbia.

### MEDICAL EDUCATION

**Preliminary Education.**—Six states do not require the two years of college work established since 1918 by the Council on Medical Education and Hospitals of the American Medical Association as the minimum requirement for the preliminary education of prospective physicians.

**Licensure.**—The greatest problem in recent years has been the licensure of graduates of foreign medical schools. Some of the states now require some additional training either by an internship or study in a medical school before accepting the individual trained elsewhere as competent to practice medicine in the United States. While the percentage of failures among graduates of the schools approved by the American Medical Association was only 3 per cent during 1938, candidates coming from other countries

indicated inadequate preparation for the licensing test in that more than 38 per cent of those taking the licensing examinations failed. The increased tendency to accept the certificate of the National Board of Medical Examiners has tended ever since 1906 to increase the number of individuals granted licenses without the passage of a state examination.

**Internship.**—Twenty-one states, Alaska, District of Columbia, and Puerto Rico require a period of internship in a hospital as a standard that must be met by applicants for licenses. Thirteen medical schools in the United States require internship as one of the prerequisites for a medical degree.

**Enrollment and Graduates.**—The number of individuals registered for the first time to practice medicine during 1938 was 9,527 while the like total for 1937 was 9,780. The percentage failed on examinations was 11.7 in 1938 whereas it was 10 per cent in 1937. The graduates of approved medical schools in 1938 numbered 8,300 while 71 more individuals received their diplomas from approved schools in 1937. The number of obituaries of physicians published in the *Journal of the American Medical Association* during 1938 included 3,630 for the United States. The similar figure for 1937 was 3,277.

Sixty-three medical schools in the United States are approved by the Council on Medical Education and Hospitals of the American Medical Association.

The number of women graduates from medical schools in the United States was 260 in 1939, an increase of 23 over the number graduated in 1938 and constituting the largest number of women graduates for any year. The number of students enrolled in the 77 medical schools in the United States was 21,302 in 1939, representing a decrease of 285 when compared with the number of students enrolled in the same number of schools in 1938.

**Nursing Education.**—The Accrediting Committee of the National League of Nursing Education is still at work surveying the schools that have applied for accreditation. This com-

mittee works with a group composed of representatives of the American Nurses' Association, the National Organization for Public Health Nursing, hospital and medical groups, as well as educators. The recommendations of the Accrediting Committee will be submitted to the Executive Committee of the Accrediting Committee and will then be passed on to the Board of Directors of the National League of Nursing Education which will make the final decision as to whether a school shall be placed on the accredited list. The first list of this type will probably be published sometime in 1940.

The Committee on State Board Problems of the League is working with the State Boards of Nurse Examiners to raise the qualifications for nursing school faculties, to develop standard tests for state board examinations, and to explain the educational value of the records of the League.

The Research Department of the League has spent a great deal of time during the past three years on a study of the costs of nursing service and nursing education. The American Nurses' Association and the American Hospital Association are cooperating in this study.

**Public Health.**—One of the trends during the year 1939 was an increase in the number of positions available for graduate nurses with training in the field of public health. The Social Security Act has made funds available for this purpose, and state and local governments have become aware to an increasing degree of the importance of public health service. The National Organization for Public Health Nursing has a membership of approximately 10,500. There are now about 23,000 public health nurses.

**The Association of Collegiate Schools of Nursing.**—The Association of Collegiate Schools of Nursing, at its annual meeting, held in the spring of 1939, devoted the major portion of the time to a discussion of the problems in connection with its function as an accrediting agency. The Association is greatly interested

in bringing about a friendly working agreement among schools of nursing, the colleges or universities of which they are a part, and the hospitals in which part of the nurses' training takes place. Twenty-six schools or divisions of nursing connected with colleges or universities which offer curricula in nursing leading to degrees compose the membership of the Association.

**Legislation Affecting Nursing.**—Nine states passed some legislation between June, 1938 and August, 1939 directly related to nursing. In all but two of the states the new laws tended to upgrade the nursing standards. In some instances educational requirements for entrance to schools of nursing were increased while in other instances the minimum standards for nursing schools and the right to establish a school of nursing were changed by the legislation.

**Trends.**—The trend which was mentioned in *THE AMERICAN YEAR BOOK* for 1938 concerning a broader conception of nursing education has continued. This has probably been due in part to the tendency of the public to become increasingly aware of the large measure of public responsibility that is associated with health in general and nursing in particular. Similar trends in regard to higher admission standards for those entering schools of nursing and higher standards of training and experience for members of nursing school faculties have been in evidence. These last trends have been brought about largely through three agencies: first, state legislation; second, standards of the National League of Nursing Education and the newly established standards of the Association of Collegiate Schools of Nursing; and third, the work of the State Boards of Nurse Examiners.

#### PUBLIC ADMINISTRATION

**Institutions for Higher Education.**—The Committee on Public Administration of the Social Science Research Council, in its annual survey of programs and courses for public administration in colleges and universities, found a continuation of the



## EDUCATION FOR THE PROFESSIONS

great interest that has been manifested during the past ten years. Seventy-one higher education institutions offered some work especially arranged for those desirous of securing training for public administration. An increased number of institutions offered one or more courses of value for this purpose.

The outbreak of war in Europe has brought about a feeling on the part of many individuals that government positions are desirable because of the relative security they offer.

**In-Service Training for Public Employees.**—In-service training programs are sponsored by state boards for vocational education under the terms of the George-Deen Act. For the calendar year 1939 more than 27,000 public officers were enrolled in in-service training programs. Six state boards for vocational education have selected a staff member who is given the responsibility for the program of public service training. While in some states the public officers given this training tend to be largely firemen and policemen, in other states special training is provided for elected city officials, state highway employees, tax assessors, water works operators, dairy and milk inspectors, and the like.

**Internship or Apprenticeship.**—One of the most interesting developments in recent years has been the in-service training apprenticeship established in Wisconsin in the spring of 1937 and commencing in January, 1938, with the first apprentices selected for the year beginning July, 1938. Outstanding students ready to undertake the last year of study required for degree are offered a loan of not more than \$400. During the year after graduation the selected students are given positions in some division of state government at a salary of \$125 a month. A lecture series for apprentices was arranged for each Saturday morning for a period of ten months and weekly or bi-weekly luncheon meetings were held. In some cases the apprentices are appointed for a second year. If they accept the loan, it is deducted from their first year's salary. After

the completion of the apprenticeship, the individuals are eligible for civil service examinations, and if there is an opening and they successfully pass the examinations, they are given a position with the state. In the event that they decide to teach or work for a private concern, it is felt that nothing is lost in as much as they will help other citizens to understand the importance and purpose of the branch of state government in which they served their apprenticeship.

During the first year of this plan 36 appointments were made, 30 apprentices were employed in various state departments, and 25 completed a year's training. Twenty-two apprentices were appointed for a second year, and with three exceptions those who resigned did so to accept teaching positions or positions with the state. One of the most interesting outcomes of this plan was a forum which was held on the University of Wisconsin campus by those who had served as apprentices. The topic discussed was "Education and the Public Service." A forum of this nature can do much to increase the knowledge of students, university and college teachers, and interested citizens.

The training program conducted by the Tennessee Valley Authority and the practical training made possible by the National Institute of Public Affairs, which were discussed in THE AMERICAN YEAR BOOK for 1938, were continued during 1939.

**Graduate Training.**—Many of the larger universities offer a program of graduate work for individuals wishing to continue their training in public administration. One of the most recent programs of this nature has been established as part of the work of the Department of Government Management at the University of Denver. This new program is made possible by a series of fellowship awards provided by the Alfred P. Sloan Foundation. Ten graduate fellowships are provided, and individuals are selected on a competitive basis from the whole United States. The course requires six consecutive quarters of work and covers a period of 18 months. The curriculum includes public adminis-



tration, accounting, budgeting and auditing, public finance, business management, and statistical research.

#### TEACHER EDUCATION

**Commission on Teacher Education.**—The American Council on Education appointed a Commission on Teacher Education early in 1938 to serve for a period of five years. The General Education Board about the same time announced a grant of \$200,000 to finance the work of the Commission. An additional grant of \$320,000 was provided by the same Board later in the year. The first meeting of the Commission was in June, 1938, and since that time the Commission has been active in establishing premises and deciding on a program. Thirty-four school systems and higher institutions have been chosen to cooperate with the Commission in a study of teacher education. The higher education institutions include six universities, five liberal arts colleges, seven state teachers colleges, and two Negro colleges. The school systems selected include a group of both urban and rural schools selected according to size, geographical distribution, and interest in the problem of teacher education. The presence of plans and programs for dealing with local problems of teacher education was the primary standard used in selecting all of the cooperating institutions, both higher institutions and public schools.

The first conference at which representatives of the participating institutions were in attendance was held during August 1939 at Bennington College, Vermont. This conference was called for the purpose of exchanging views and defining the problems which would be chosen for study. The chief objectives of the conference were to determine the major problems that should be studied, to develop plans for the utilization of the institutions' resources, to develop plans for cooperative activities of the Commission and participating institutions, to develop plans for relations with other institutions and organizations, and, lastly, to clarify the goals of teacher education. The Benning-

ton Conference recommended a large number of problems for study, and from these problems a list of 12 was selected for further study. These 12 problems were listed under two major headings, the first having to do with "questions of fundamental importance with respect to the selection and organization of educational experiences for teachers and other educators," and the second heading concerned with related technical problems. The Commission believes that the ultimate objective of improving teaching in the schools of the United States will be achieved if the work and findings of the Commission are publicized so as to influence the actions of all individuals and groups working in the field of teacher education.

Six national associations have been invited by the Commission to work with the members and the staff, and a special conference was held with the officers of the following associations: American Association of Teachers Colleges, Municipal Normal School and Teachers College Association, National Association of Colleges and Departments of Education, National Association of State Directors of Teacher Education and Certification, National Society of College Teachers of Education, and Supervisors of Student Teaching.

**American Association of Teachers Colleges.**—The membership of the Association for 1939 is 186, consisting of 156 accredited colleges and 30 non-accredited institutions. During the year the accrediting committee added two institutions to the list of those accredited. The minimum standards for accredited teachers colleges and normal schools were changed in 1939 to include two additional regulations under the section entitled "Administrative Stability." They are as follows: "it is presumed that administrative officers and faculty members will be appointed on merit rather than for political or other non-professional considerations; it is presumed that faculty members and administrative officers should not be removed without cause, and in the case of dismissal of an administrative officer or faculty member the person to be dis-

## EDUCATION FOR THE PROFESSIONS

missed should be entitled to (1) a statement in writing of the reasons for his dismissal, (2) a hearing before the board with the opportunity to refute the charges and to present witnesses if he desires to do so."

### THEOLOGICAL EDUCATION

**The American Association of Theological Schools**, organized in 1936, includes in its membership 82 theological schools located in the United States, Canada, and Puerto Rico. The requirements of this association, which were discussed in **THE AMERICAN YEAR BOOK** for 1938, have been met by 49 institutions which are on the accredited list.

#### Enrollment in Accredited Schools.

—It was pointed out in 1938 that there has been a tendency for the enrollment in accredited theological schools to decrease. Enrollment statistics for the period 1936-39 indicate an increased enrollment in 10 schools and a decreased student body in 10 other institutions. In so far as the size of the faculty may be indicative of the enrollment, 17 institutions report an increase in the number of faculty members and 14 state they are continuing their work with a decrease in the number of staff members.

**Trends.**—The American Association of Theological Schools held its biennial meeting during 1939, and four regional conferences were held in the United States. A printed statement on "Pre-Seminary Curriculum" has been distributed and a monograph on the "Claims of the Christian Ministry" is in course of preparation. The Association has appointed a Committee on Personality and Aptitude to give careful consideration to the problems involved in the selection of candidates for the ministry.

The 49 accredited theological schools are continuing their efforts to improve their standards. One indication of this effort is that each of the schools has improved its library facilities.

Each school belonging to the Association has been asked to provide an opportunity for at least one theological scholar from among the group of ministerial candidates who

have been forced to flee to this country because of European conditions.

**The Priesthood.**—The Department of Education of the National Catholic Welfare Conference reports that the 1937-1938 biennial survey of Catholic colleges and schools listed 93 major seminaries staffed by 1,077 teachers training 8,125 young men for the priesthood. During 1938 there were 1,218 priests ordained. There were 80 preparatory seminaries enrolling 9,523 students taught by 1,144 instructors. There were 1,769 graduates from these seminaries during 1938, and 1,248 of them entered the major seminary.

### TRAINING FOR SOCIAL WORK

**Trends.**—Continued unemployment has necessitated national, state, and local relief work on almost as broad a basis during 1939 as during the previous year. The demand for trained social workers has continued to exceed the supply, and it has been necessary to employ many individuals who have not had as much or as specific training as is desirable.

**Schools of Social Work.**—The membership requirements of the American Association of Schools of Social Work were changed in January 1939. The new requirements are divided into two classifications, those applying to Type I schools which offer a one-year graduate program of study, and Type II schools that maintain a graduate program of two years. This change is in line with the attempt of the Association to improve the training which is provided for individuals wishing to engage in social work. Further evidence of upgrading is the requirement, put into operation beginning Oct. 1, 1939, that all students enrolled in schools that are members of the American Association of Schools of Social Work must be graduates of an approved college.

The number of schools belonging to the Association during 1939 was 37. The Rockefeller Foundation has provided funds for a study of education for the public social services. This study was begun in May, 1938, and a

## XXVII. EDUCATION

report has been prepared for consideration by the Study Committee. This report will probably be published during the early part of 1940 and should be of great value in defining the problems connected with the training for social services and suggesting possible solutions.

### ADULT EDUCATION

BY FRANK M. DEBATIN

DEAN, UNIVERSITY COLLEGE, WASHINGTON UNIVERSITY

#### GENERAL

The year 1939 in adult education was particularly difficult to characterize. In some ways it is possible to draw the conclusion that, because of the curtailment of certain activities and the lack of new undertakings to counterbalance these, adult education arrived either at the stage of marking time or of actually retrogressing. From another angle, however, one could deduce that there was more vital energy expended within this field because so many publications of varying lengths and importance have been produced and because local and regional conferences have kept the profession busy at home. Finally, there came into the thinking and discussion of adult educators in the last several months of the year an awareness of the relationship between their work and the demands and implications of the current European war.

To sum this up, one might say that the work of adult education during 1939 was not particularly spectacular in nature, that it dug in for constructive thought and creative endeavor where beginnings were already well under way, and that it spent some time taking stock and relating its various programs to the realisms of social, economic, and international life.

Starting from such premises and assertions, one immediately finds that there are an unusually large number of more or less unclassifiable activities for the year. Most of these are general in scope. While they originate in various localities and perhaps in their inception are primarily directed at individual fields of adult education, they are much more comprehensive than that.

#### REGENTS' SURVEY IN NEW YORK

There is for example the publication of the *Report of the Regents' Inquiry* in New York, which, while it came into existence in the previous year, still gathered its greater momentum of influence during 1939. In the survey which the Regents made of the entire educational system of the State of New York, one of the studies is entitled "Adult Education" and is the work of Floyd W. Reeves, Thomas Fansler, and C. O. Houle. These three experts, with the help of a great many contributors, examined carefully the current status of adult education throughout the state. They analyzed the scope of adult education, and attempted the definition of adult education for use in the environment in which they were working. In effect, to quote from their report, the definition is: "Adult Education is . . . any purposeful effort toward self-development carried on by an individual without direct legal compulsion and without such effort becoming his major field of activity."

From there, the inquiry carefully studies, with statistical material accompanying its analyses, the various agencies already employed in the educational system of the state. A chapter devoted to "Special Aspects of Adult Education" extends this survey to include what are commonly known as "Parent Education," "Workers' Education," and the position of the press, the motion picture, and the radio in the field of adult education. The concluding chapters of the report deal respectively with an evaluation of the current program and suggestions for a proposed program.

In the first of these, it is pointed



## ADULT EDUCATION

out that adult education so far has shown serious lack in the statement of its objectives. This assertion is followed by a group of five general functions and then some ten special objectives for general adult education, and three others for vocational education. An analysis of these particular functions follows, and covers the interests latent in "Consumer Education," "Recreation and Self-Expression," "Health and Safety," "Naturalization," and several others. The close of this earlier chapter elaborates what the committee feels to be the need for a satisfactory program, pointing out special interested groups, the indirect facilities for educational and vocational guidance for adults, the relationship of adult education to the total educational program, the need of teacher training and teacher techniques and materials, the public financing of adult education, and the desirability of coordination with other activities.

Near the end of this chapter, which, as will be pointed out elsewhere, has become a storm center of the discussion of this report, it reads as follows: "If adult education is to become effective in New York State, there is genuine need for coordination. Coordination is not wholly a matter of administrative machinery, although that sometimes helps. It is not wholly a matter of personality and leadership, or wholly a matter of policy. It is a combination of these three."

The insistence upon coordination and the implications latent in this word are such as to give rise to the belief that adult education may easily become a standardized and conventionalized program.

The final chapter in the report makes constructive recommendations regarding administrative organization and the solutions of specific problems, and closes with a plea for equalization of opportunity for all adults. The summaries of these proposals are 14 in number, and would look to a very definitely outlined career for adult education in the state. There are also included certain proposals as to costs, involving some \$1,275,000 for a five-year period. The source of

this money is to be found in certain savings to be made by the reorganization of the complete educational program of the state. But again, in the summary of proposals, there is reported the direct emphasis upon coordination, and throughout there is evident the desire for systematization and regulation from an administrative point, from the point of view of the teacher training and research programs, from the viewpoint of the material to be included, though perhaps with only implications upon which to base the last.

In his annual report as Director of the American Association for Adult Education, Morse A. Cartwright urges self-determination for adult education. This belief in a democratic principle for the development and expansion, and particularly the concurrent recognition of local and regional variations, are in part at least opposed to the recommendations for coordination contained in the Report of the New York Regents. Cartwright's insistence upon self-determination is, however, also an outgrowth of considerable uncertainty expressed by educators in regard to the possible influence of Federal aid and subsidy as so far proposed in the several bills which have been before the Congress.

### OBJECTIVES OF AMERICAN ASSOCIATION FOR ADULT EDUCATION

In the October issue of *The Journal of Adult Education*, in an article entitled "A Nation in Neutrality," the Director of the American Association for Adult Education has re-stated the objectives of that organization under four heads. In brief, they are these: first, to serve as constructive but critical appraiser of adult education effort in the United States; second, to increase the number of educational opportunities for adults, with the ultimate desire to guarantee if possible their endurance to the time when normal conditions will return; third, to extend the program of study in techniques of teaching, leadership, and the presentation of subject matter materials; fourth, to provide wider opportunity for the discussion



of all types of problems in which adults are interested. This re-vitalizing of the objectives of the American Association conforms with the principle of self-determination, and while it by implication at least expresses a belief in systematic pursuit of study under well regulated conditions, it finds elements of danger in any program even though influential in only a limited area which would derive its financial support from external sources or would become an integrated and perhaps lifeless part in an educational mechanism.

Again, in the development of such a philosophy, the American Association for Adult Education has continued holding its regional conferences. Among other conferences held were those in Saint Louis; Columbia, S.C.; Ann Arbor, Mich.; Hampton Institute (for Negroes); New York; and Spokane, Wash. The Association's study program has produced several additional volumes including *Museum and Popular Culture* by T. R. Adam, *Education for Health* by Frank E. Hill, and *Rural America Reads* by Marion Humble. The co-operative study to determine the nature of the clientele of extension divisions was undertaken by the Association together with the National University Extension Association. This investigation, when it is completed, will be an elaborate search into the backgrounds, purposes, and general qualifications of the adult student found in the extension divisions of a very large number of universities in the United States. The study is being directed by Clem O. Thompson of the University of Chicago.

#### READABILITY LABORATORY

A further project which during the current year has found realistic expression is that of the Readability Laboratory conducted under Lyman Bryson at Teachers College in Columbia University, with the cooperation and help of the American Association for Adult Education and the Carnegie Corporation. This study has been under way for a number of years, and with the help of the Mac-

millan Company, arranged for the publication of 12 volumes under the general head of *The People's Library*. These volumes dealing with as many subjects of general and popular interest are gauged to attract and to inform the adult who wishes to obtain a general understanding of the subject in question, who is not professionally interested in it, and whose general background may be that of the average citizen. The volumes are attractively gotten up, contain a limited number of illustrations, and are offered at a low cost. Six of the volumes are now in print, and they include: *Let Me Think* by H. A. Overstreet, *Which Way America?* by Lyman Bryson, *Here Comes Labor* by Chester M. Wright, *They Worked for a Better World* by Allan Seagar, *Who Are These Americans?* by Paul B. Sears, and *The Attractive Home* by Lydia Powel. Six further volumes are in preparation.

#### DEVELOPMENT OF EDUCATIONAL OPPORTUNITIES

From these several specific items, it would seem that it had become clearer to adult educators that their province lies largely in the development of educational opportunities for that rather large group of adults numbering perhaps some 50,000,000 who are not sufficiently fortunate in their educational equipment or their social and economic background to enable them to take the initiative in their own education or to benefit by the type of efforts which already have attracted the other third of the nation's adults into extensive adult education activities. In addition to the fact that this group needs a definite type of education and that the approaches must be from other angles, perhaps the manipulative and also the visual and auditory, it is clear that the need for discovering well authenticated programs is urgent if in this country the influence of the propagandist and demagogue shall be definitely curtailed, an intelligent leadership produced, and a uniform culture born. Specific ventures which contain the seeds for the ultimate develop-

## ADULT EDUCATION

ment and realization of these purposes can be found in the Boston Center, in the South Orange-Maplewood Adult School, in the newly created Adult Study Center of Washington University, and in the wide variety of specialized organizations which are sometimes quasi-educational in their purposes but always sincere and authentic. Such effort is by growth the informal activity made suitable for social, economic, and cultural unfolding by the application of sound principles of education which are, however, adapted without lessening fundamental values to the immediate needs of widely varying groups of individuals.

It is significant to note in this connection that many of the colleges and universities throughout the country have liberalized their program of adult offerings with the introduction of many informal courses. Information gathered from the Association of Urban Universities, the National University Extension Association, and from many individual institutions of higher learning reveals a growing set of opportunities far too long for notation here. Some of these efforts are a part of the radio, the forum, or the general lecture program of these and similar institutions, but those which are conducted on the classroom basis cover such widely separated yet vital fields as are suggested by the following few titles: "Fire Prevention," "Propaganda Analysis," "Music Appreciation," "The Housing Problem and the Public Housing Policy," courses offered cooperatively with such organizations as the local transportation club, the traffic club, the manufacturers' association, and writing centers, foundation courses in elementary and secondary subjects given at an adult pace, "Wood Cuts and Wood Engraving," "How to Think Intelligently," "Chef's Cap—A Cooking Course for Men," "Conversational English," "Thimble Thrift," "Great Books of Literature, Philosophy, and Science," and courses originally intended in the area of general education for adolescents but now made available for adults as well.

## WORKS PROGRESS ADMINISTRATION

A fundamental change in the regulations governing the appointment of persons in the Works Progress Administration had its bearing also upon the adult education activities directed by that unit. Since by this new order persons who had been engaged for a period of 18 months must be withdrawn for at least 30 days, a complete reorganization of personnel became necessary. This inevitably withdrew from active service many teachers who had proved their value over a long period of time. Accompanying this reorganization there were other administrative changes necessitated, eliminating almost completely certain of the major divisions of adult activity. A consequent decrease in enrollment was to be expected. However, some of the branches of the work were maintained and new emphases placed upon others. The literacy drive was among those pushed forward, as was the development of adult materials both for literacy and elementary education. A somewhat newer activity was that involved in safe driving education and the establishment of correspondence study courses for adults in areas where it seemed a more feasible procedure than class establishment.

## FORUM PROGRAM OF U. S. OFFICE OF EDUCATION

In the forum program of the U. S. Office of Education, a definite change was necessitated by reason of the fact that the financial basis upon which that plan originally rested was remodeled. Instead of experimental centers or groups of centers around a single community, the United States Commissioner of Education appointed 14 state supervisors of forum projects. These were charged with the organization of forums in the communities of their respective states, without funds, however, for engaging forum leaders. Assistance for the administrative work was to be sought through W.P.A. units, and the leaders were to be provided through cooperation with local educational and business units. In the case of the Uni-

versity of Indiana, for example, such cooperation was established. The plan is as yet too new to evaluate its potentialities. It will doubtlessly require time and a re-thinking of the program to make it fully operable.

Meanwhile, however, under the direction of the United States Office of Education, there was published a *Forum Planning Handbook* with a sub-title *How to Organize School Administered Forums*. The booklet is arranged in an attractive manner, and should be useful in various areas where the necessary leadership can be discovered. The several steps in planning a local forum are well discussed, and there is considerable material showing how small, adjacent communities can effectively pool their resources. From this point, the handbook expands its discussions to include the larger cities and their schools, and gives some indication of what state and Federal aid might do for a permanent forum program. It is evident from the material that the future forum movement, while less enthusiastic and aggressive than it was some years ago, still foresees that at whatever reasonable cost it may be done, the expectations to be derived from general public discussion of important current issues will greatly strengthen the bases of the democratic form of government.

In the agricultural offerings, it has continued to place emphasis upon the use of the local advisory councils for discovering and developing the particular educational needs of a neighborhood or region. Many states have also formed farm planning programs for councils and local communities. In home economics, there has been notably an increase in the number of visits made to the homes of the adults who are in class, and a greater tendency to make directed home experiences an integral part of the adult education program, and a larger emphasis upon such subjects as family relationships and parent education. In the vocational education program as a whole, it is possible to see a greater practicality evidenced both in the courses and in the manner of their presentation. While there has

been some recession in the program due to the discontinuance of agricultural programs, as for instance in Buffalo and New York City, it is probably not incorrect to say that the value of the work as a whole has been greatly intensified.

Of the work being carried on consistently through the United States Department of Agriculture, it may suffice to indicate its wide extent by indicating that in the current year there were some 8,427 workers engaged in agricultural extension, that 3,735,584 farms were reached by the agricultural programs, 1,904,261 houses by the home making and home economics programs, and that the aggregate of farm families, as well as other families reached by some phase of this extension program, runs to the very formidable figure of 5,525,361.

#### RADIO IN ADULT EDUCATION

Another field which has been outstanding in the new effort which has been made toward providing education for adults is the radio. Whatever the factors operating in bringing this about may in some instances be, the results are generally speaking gratifying both as an evidence of better broadcasts and greatly enhanced, worthwhile opportunities for adults. The several networks have continued many programs and expanded others. Local stations have provided a wider selection and have put more of the responsibility for the planning of their activities into the hands of educators. On their side, these educators have come to a fuller realization of the responsibilities of radio, and have also begun to understand more fully the essential differences between classroom teaching and educational effectiveness *via* the broadcast. In some few communities also, local stations have created educational committees to assist them both in the function of consultants and of actual program creators.

It may be that it was only in 1939 that there came to be felt definitely the influences that were expected upon the appointment of educational committees by the several major networks. James R. Angell and Lyman



Bryson have each brought to bear in increasing measure the best available techniques of presentation and the most significant and stimulating topics for general adult information. The definition of education as applied in the radio field which was given by David Sarnoff of the National Broadcasting Company is to the general effect that it "is one of those umbrella words that casts a wide or a narrow shadow, depending on whether you keep it open or closed." By this is made clear the philosophy underlying a good deal of the educational broadcasting now being done. There is no intention, of course, except in very isolated instances, definitely to teach any one subject or even one phase of a subject. The purpose is rather to help adult minds toward a habit of thought, a fuller realization of many of the less immediate and less understandable problems involved in living today, and to a constantly growing appreciation of those areas, cultural, artistic, aesthetic, which in the final analysis give to civilization its reality. Perhaps it would not be out of place to add as a further evidence of the interest of the radio in maintaining a balanced sanity among its listeners while also providing them with non-prejudiced information about current world affairs, that they have agreed among themselves upon a standard and procedure of foreign newscasting both as to quantity and quality.

Among the newer aspects of the radio programs are to be noted the increasing number under the direction of colleges and universities. The University of Minnesota has daily broadcasts including most of the academic and many of the extra-curricular activities, and an especially extensive and well developed program of music. "The Pilgrimage of Poetry," which is a National Broadcasting Company program, includes pilgrimages to some 33 communities, each representative of the birthplace and *floruit* of a distinguished American poet. The Workers' Educational Bureau of America has become largely responsible for the program

of "Americans at Work." KMOX, the local St. Louis station of the Columbia Broadcasting System, has appointed an educational committee whose current program is called "In the Dean's Study," an unrehearsed discussion program occupying a 30-minute period at noon on Sundays. Listeners' groups have been established, and under the encouragement of Town Hall in New York are becoming a definite factor in increased effectiveness of the radio in education. Handbooks and other materials continue to be issued, but among the notable publications should be stressed that of Faith H. Hyers, *The Library and the Radio*. Courses in radio writing and production, in general orientation of radio activities, and specialized courses in technique of speech, newscasting, and dramatic performance before the radio are also definitely on the increase with far greater understanding and experience on the part of those who are undertaking their presentation. In general, the adult public is stimulating this entire effort to make at least a noticeable portion of radio time a factor in the intellectual and cultural development of the country as a whole.

#### THE LIBRARY

Always the library is a dominant figure in adult education. Long since thought of by many as the hub from which radiate as spokes the other areas of adult education and about which adult interests in education circulate, the library is still producing a most consistent program of thoughtful and well organized research and publicity.

In general, the program of the American Library Association has been formulated through its Adult Education Committee into a five-point program: (1) emphasis on an educational objective in adult services, (2) the increase and improvement of experiments and demonstrations, (3) qualitative tests of service, (4) training for those participating in adult service, and (5) leadership in the field. (See "Libraries," pp. 986-991.)



**CONSUMER EDUCATION**

Definite development in consumer education has been manifested during the year in the holding of two important meetings. One was held at Stephens College where, through a special gift, an administrative staff and a library have been established for study, consultation, and other forms of development. The minutes of the meeting, including the discussions as well as the major papers, have been published. The other conference was held in Buffalo under the direction of the Better Business Bureaus of America and attempted to discover the view of the consumer, the educator, and the business man. These papers are also in print. While the approach of the two groups is from different angles, each is sincere in attempting to understand the fundamental problems involved. There is to be deduced on the one hand the fact that consumer education may have a future of its own, whereas, on the other hand, it should perhaps more frequently be included with education in allied fields wherever it has appropriate application. Research, experimentation, testing laboratories, and wider opportunities for the lay public to get immediate and realistic benefits from studies made by reliable groups should shortly hold a central position in the unfolding of consumer education. This will mean a departure from theory and from what has frequently been semi-informed thinking in the direction of a better understanding of the major forces involved in the production of standard commodities at fair prices. The sting of animosity which has sometimes pervaded such discussions and has tended to antagonize even the sincerest production agencies will disappear when the cooperation of consumer, educator, and producer becomes closer. This, there is some evidence to believe, is happening. As a help in the study of consumer education in its history, its importance,

and its ramifications into numerous delimited areas, there has recently appeared George C. Mann's *Bibliography on Consumer Education*.

**GUIDANCE**

A noteworthy event in the field of guidance is the liquidation of the National Occupations Conference. While this would seem to be a purely negative occurrence, it is right to say that with the withdrawal of this particular group a greater assumption of the problems of guidance will be included in the programs of the National Vocational Guidance Association and also the U. S. Office of Education. As a matter of fact, the first move of cooperation between these two organizations took place in a conference held in Washington, D.C. in the fall. The publication of further bulletins for the training of those interested in special trades and vocations continues to come from the Office of Education. These bulletins are in large measure, not entirely, intended for those who are students in evening trade extension courses. The awareness of a guidance program for adults as well as the necessity for continuing the guidance of persons who have already begun on some type of vocation, trade, or profession, is making headway into most organizations and particularly those dealing in the somewhat formal phases of the work by engaging specialists; where that is not possible, educational administrators are calling upon larger numbers of their staff to consult with present and prospective students in an effort to have them accurately placed. As a matter of fact, those who are seeking to continue their education as adults are themselves anxious to make the continuity as nearly identical with that of the adolescent students as they possibly can. Besides this, they are showing a greater definiteness about the objectives which they wish to attain.

## THE EDUCATION OF NEGROES

### THE EDUCATION OF NEGROES

BY WILLIAM ANTHONY AERY

DIRECTOR OF EDUCATION, HAMPTON INSTITUTE

#### EDUCATIONAL INEQUALITIES

Dr. F. D. Paterson, president of Tuskegee Institute (*Journal of Educational Sociology*, January, 1939), expressed his belief in intelligent counseling on the precollege level with a view to giving young Negro men and women the basic facts concerning vocational possibilities; namely, setting up attractive restaurants and hostelrys, doing landscape gardening, caring for modern buildings, and engaging in trade work. He urged Negroes to study small business and use this agency to advance themselves economically.

Chapter VII of *Special Problems of Negro Education*, "Democracy in Negro Education," summarized the relatively low standard of public education for Negroes in the Southern States, where elementary pupils attended "extremely impoverished, small, short-term schools, lacking in transportation service, void of practically every kind of instructional equipment, and staff of relatively unprepared, overloaded teachers, whose compensation does not approximate a subsistence wage. The few who finish the elementary grades find relatively little opportunity, especially in rural areas, for a complete standard secondary education. Opportunities for education in public undergraduate colleges are even more limited, and opportunities for graduate and professional study at publicly-controlled institutions are almost non-existent."

Hence the social effectiveness of the Negro citizen remained reduced by educational inequalities. Negroes continued to migrate to Northern communities and carry with them significant educational deficiencies.

Professor Doxey A. Wilkerson of Howard University (see Norfolk, Va., *Journal and Guide*, Nov. 25, 1939) declared that 20,000 additional Negro teachers would have to be employed to reduce the pupil-teacher loads to

the level for white schools. "Some 2,500,000 colored youth," he said, "enrolled in Southern schools, are required by law to attend segregated schools which for the most part are ramshackle, outmoded structures in need of replacement. Public elementary and secondary schools are kept open for terms which are from one to two months shorter than those for white schools in the same communities. . . . The salaries of colored public-school teachers average about \$500 per year, which is just about one-half as much as the average salary of white teachers. . . . Reaction, even in America, threatens to undermine the civil liberties of us all."

#### FIGHT FOR HIGHER EDUCATION IN SOUTH

**Action of N.A.A.C.P.**—The National Association for the Advancement of Colored People fought vigorously to have southern states open the doors of white institutions of higher learning to qualified Negro candidates for admission. The Association sought to get action on the basis of the U.S. Supreme Court decision in the Gaines Case (see *THE AMERICAN YEAR BOOK*, 1938, pp. 54-55, 538-540, 939). Attorneys for the N.A.A.C.P. filed a writ of mandamus against the University of Missouri, which had excluded Lloyd Gaines, to compel the University to admit Miss Lucille Bluford to classes in the Graduate School of Journalism. The new Missouri law provided for the establishment of a law school for Negroes at Lincoln University.

Charles H. Houston, chief counsel for the Association, followed up actively and over a wide area the U.S. Supreme Court decision which was handed down by Chief Justice Hughes (59 Supreme Court, p. 232, Dec. 12, 1938).

**North Carolina.**—The South, as

## XXVII. EDUCATION

was to be expected, reacted according to the development of public opinion in the matter of education for Negro youth. Graduate students at the University of North Carolina (see *Daily Tar Heel*, Jan. 12, 1939) declared that personally they had no objection to the admission of Negroes to the graduate and professional schools. They expressed the feeling that the Negro as a citizen "has every right to equal opportunities with every other group of citizens." They said, too, that they had no objection to attending class with any student who could measure up to the academic standards required for admission to the graduate and professional levels of instruction.

Governor Clyde R. Hoey of North Carolina (see *Chicago Defender*, Jan. 21, 1939) declared that no Negro graduate student would be admitted to the state university. He favored, however, a bill to provide equal facilities for Negro graduate students at state Negro colleges. During the year white professors from Duke and the University of North Carolina co-operated in giving graduate instruction to Negro graduate students.

**South Carolina.**—The South Carolina Legislature voted 22 to 0 on Jan. 18 to sponsor a bill to set up a school of law at the Negro A. and M. College (Orangeburg) in anticipation of the N.A.A.C.P. drive to have Negro students admitted to the University of South Carolina.

**Oklahoma.**—On the opening day the Oklahoma Legislature (see *Chicago Defender*, Jan. 21, 1939) received a bill to provide a plan for complete separation of the races in the preparatory schools and institutions of higher learning. The bill provided for the establishment of schools of law, medicine, and other professional schools for Negroes, but no funds were set aside for this work.

**Kentucky.**—Governor A. B. Chandler of Kentucky (see *Quarterly Review of Higher Education of Negroes*, April, 1939) stated that he did not believe Kentucky was ready for mixed schools, but he appointed an inter-racial committee to coordinate educational facilities in a way to give

Negroes equal opportunities as prescribed under the Gaines decision.

**Tennessee.**—The University of Tennessee refused admission to six Negro students to its graduate school in September. The N.A.A.C.P. brought mandamus actions (see *Newport News, Va., Daily Press*, Oct. 19, 1939) and cited that Negroes under "charter provisions" had a right to be admitted.

**Advocacy of Regional Universities.**—Dr. Guy B. Johnson of the University of North Carolina (see *Chicago Defender*, June 17, 1939), in an address at Virginia State College (Ettricks), praised the militant program of the N.A.A.C.P., but criticized the organization for its failure to study the backgrounds of the localities in which it had established its battlefront. He stated that the N.A.A.C.P. falsely held that political activity would be a solution to the race problem in the South. He advocated the setting up of regional universities for Negroes. This idea was explored, without results, at a meeting of Negro college and university presidents which was held at Howard University, Washington, D.C. in May (see *Baltimore Afro-American*, June 3, 1939).

### EQUALIZATION OF TEACHERS' SALARIES

**Maryland Decision.**—Federal District Judge W. Calvin Chestnut on Nov. 22, 1939 decided in favor of Walter Mills against the board of education and superintendent of schools in Anne Arundel County, Maryland, in a case which involved the payment of teaching salary without regard to race. The case was taken to the U.S. District Court because the Fourteenth Amendment to the Constitution had been violated when county school officials set teaching wage scales on the basis of race rather than on the basis of teaching qualification and experience.

Judge Chestnut said: "At the present time the respective minima are \$1,250 for white teachers and \$765 for colored teachers, with comparable professional qualifications and experience. . . . A very substantial dif-



## THE EDUCATION OF NEGROES

ference between the pay schedules of white and colored teachers has always existed—1921, \$881 for whites, \$442 for colored; 1930, \$1,199 and \$635; 1931, \$1,314 and \$848; 1937, \$1,150 and \$680; 1939, \$1,550 and \$995. . . . If Mills were a white principal, he would necessarily receive according to the Anne Arundel scale not less than \$1,500 as compared with his actual salary of \$1,058. . . . He [Mills] is unconstitutionally discriminated against in the practice of his profession . . . and he is entitled to an injunction against the continuance of such discrimination. . . .”

**North Carolina.**—The North Carolina salary committee of State school commissioners (see *Norfolk, Va., Journal and Guide*, July 15, 1939) stated that Negro teachers would get a large portion (probably \$250,000) of the \$275,000 available for teacher salary increases in order to correct the 30 per cent differential between white and Negro teachers.

**Virginia.**—The *Virginia Teachers Bulletin* for April, 1939 (official organ of the Negro teachers) summarized the Virginia program of salary equalization and gave the essential details of the case of Miss Aline E. Black of the Booker T. Washington High School against the City of Norfolk School Board. “Norfolk pays white women high school teachers an average annual salary of \$1,627. Negro women high school teachers with identical training and experience, and performing essentially the same duties, receive \$950.”

In opposing Miss Black's plea, the Norfolk School Board contended that the issue involved a contract between the Board and the Negro teacher concerned and that it was, therefore, not controlled by any law, rule, or regulation affecting civil rights. Miss Black was refused a teaching contract for 1939-1940.

Norfolk also faced another salary-equalization suit by Melvin O. Alston, filed in the Federal district court (see *Norfolk, Va., Journal and Guide*, Nov. 25, 1939) and based on the principle that “all persons within the jurisdiction of the United States have the right to make and enforce contracts,

to sue, . . . and to receive full and equal benefits of all laws.”

### GENERAL EDUCATION BOARD

President Raymond B. Fosdick (*The New York Times*, June 14, 1939) reported that the General Education Board for 1938 had appropriated \$842,788 for Negro education out of a total of \$7,410,045.71. The appropriation for whites was \$3,205,900. Significantly the Board will continue its existing program in the South. This means that the education of Negroes will go forward under more favorable social conditions.

### RURAL EDUCATION

If “the teacher is the school” then the quality of teacher in the Negro rural school can scarcely be raised quickly while the following average annual salary schedule prevails: Alabama, \$249; Arkansas, \$400; Florida, \$443; Georgia, \$425; Kentucky, \$750; Louisiana, \$340; Maryland, \$730; Mississippi, \$150; North Carolina, \$527; Tennessee, \$585; and Virginia, \$405 (*National Education Association Research Bulletin*, March, 1939).

Dr. Edna M. Colson, director of education at the Virginia State College (Ettricks), was in charge of a modern discussion school called by President John M. Gandy for July 31 through Aug. 3. Negro leaders discussed the relation of rural education to agriculture and social welfare (*Norfolk, Va., Journal and Guide*, July 29, 1939). “What Is A Desirable Rural-Life Program” was the general theme. Problems included in the program follow: “Place of Government in Modern Society,” “Government in Relation to Social and Economic Affairs,” “Conservation of Natural and Human Resources,” and “Population and Social Adjustment.”

This institute, arranged by the Virginia State College in cooperation with the U.S. Department of Agriculture, was the first one held for a Negro group or at a Negro institution. The coordinators were Hugo H. Johnston, dean of the college; John M. Lockett, director, School of Agriculture; and Samuel A. Madden, supervisor of Negro WPA adult education.



**ELEMENTARY EDUCATION**

In 1934 (see U.S. Office of Education *Bulletin*, 1935, No. 2) there were 2,904,100 Negro children five to 17 years of age, inclusive, and 2,430,098 or 84 per cent enrolled in public schools (for whites the percentage was 83) in 18 states having separate schools for whites and Negroes. The Negro percentage of attendance was 84 (whites, 91) in the same area—urban white, 80, Negro, 75; rural white, 74, Negro, 67. The average daily attendance showed less difference—white, 81 per cent, and Negro, 78 per cent. The average length of the school term was as follows: white, 167 days, and Negro, 146, a differential of 13 per cent against the Negro.

In 1934 some 2,266,913 Negro children in public schools in the same area were distributed by grades as follows: kindergarten, 4,765; first, 796,765; second, 334,780; third, 302,803; fourth, 269,866; fifth, 217,090; sixth, 170,382; seventh, 125,391; and eighth 45,071. In short, the grade distribution of Negro pupils is markedly skewed toward the lower school levels. Negro public schools fail to hold pupils beyond grade four.

The pupil-load for Negro elementary school teachers was 43 for 1933-1934 (white, 34) for 18 states. The percentage ratio of pupil-load, Negro to white, was 128—Louisiana and South Carolina, 158; Alabama and Georgia, 138.

In 1935-1936 Negro teachers in 17 states averaged in annual salary \$510 (white teachers, \$833) or 61 cents per Negro teacher for each \$1.00 per white teacher. The trend in white teachers' average annual salary was from below \$200 in 1900 to nearly \$900 in 1930 (Negro teachers, from \$100 in 1900 to slightly above \$400 in 1930) for 13 southern states.

In spite of the percentage of Negro population in the southern states, the Negro percentage of the total value of property used for school purposes was, in 1935-1936—only 6 per cent—while the school enrollment of Negroes was 30 per cent in 10 states. For the average white pupil enrolled, these 10 states had invested \$183 in

school sites, buildings, and equipment (per Negro pupil, \$36, or 19 per cent).

**SECONDARY EDUCATION**

For every 100 white pupils and 100 Negro pupils entering the public elementary-schools in 18 southern states in 1933-1934, there were 64 white pupils and only 26 Negro pupils enrolled in grade 7; 49 white and 14 Negro, grade 8, and 26 white and five Negro, grade 12 (see *Special Problems of Negro Education*, p. 36).

In 1933-1934 for the same region there were 2,639,169 white children 14 to 17 years of age (Negro, 869,641), with 1,445,017 or 55 per cent white children enrolled in secondary grades (Negro, 163,185 or 19 per cent).

The percentage of Negro children enrolled in secondary schools varied widely in the southern states; for example, Mississippi, 7; Alabama, Arkansas, Delaware, and Georgia, 10; South Carolina, 12; Kentucky, 42; Missouri, 45; West Virginia, 49; and District of Columbia, 70. At this period, for the United States as a whole, 60 pupils were enrolled in public high schools for every 100 children aged 14 to 17, inclusive.

It is true, however, that from 1920 to 1934 in these 18 southern states the Negro public secondary-school enrollment increased from 33,341 to 163,185, a gain of nearly 38.9 per cent, and it is reasonable to assume that the gain since 1934 has been steady, although not so great.

The marked extension of public secondary education which characterized the nation during the past half century, according to D. A. Wilkerson (see *Special Problems of Negro Education*, p. 41), did not significantly affect Southern Negroes until 1920. He adds: "Many rural communities with significantly large Negro populations do not afford public high-school facilities for the Negro race" (*idem.*, p. 41).

In 1933-1934 some 5,580 Negro children, 14 to 17, were enrolled in private secondary schools, 4 per cent of the total enrollment of 158,169 which was 19 per cent of the Negro group within the age range of 14 to 17 years, inclusive.

## THE EDUCATION OF NEGROES

In short, private agencies then and now supplemented "the inadequate, if not non-existent, facilities afforded by public schools."

In 1933-1934 there were 22 Negro junior colleges in 16 southern states with a total enrollment of 2,050 (public, 206, and private, 1,344). The Negro percentage of the total was small—institutions, 10 per cent, enrollment, 6 per cent. These institutions were largely "abbreviated collegiate institutions."

### FINANCIAL SUPPORT

Chapter III of *Special Problems of Negro Education*, written by Doxey A. Wilkerson and issued by the Advisory Committee on Education as Staff Study No. 12, presents a vivid picture of "The General Financial Support of Elementary and Secondary Education."

A few excerpts follow: "Because of their relatively small amount of taxable resources, most of the Southern States are financially unable to support an adequate program of public education. . . . Although Negroes constituted 28 per cent of the total enrollment in 10 Southern States in 1935-1936, only 12 per cent of the total current expenditure went for the support of Negro schools. The expenditure per pupil enrolled in 10 Southern States was as follows: White, \$37.87; Negro, \$13.09. The expenditure per Negro pupil for each \$1.00 per white pupil was 35 cents—Georgia, Mississippi, and South Carolina, 20 cents; Oklahoma, \$1.13; Missouri, \$1.14.

"Even with the addition of 56 million dollars to present current expenditures for Negro schools (in 18 Southern States), there could be provided only a very modest program for Negro pupils" (*op. cit.*, p. 52). Further, there were some 500,000 Negro children who were "not in average daily attendance" (white, 1,000,000).

### HIGHER EDUCATION

In 1939, some 3,467 Negro college graduates received diplomas (see *Crisis*, August, 1939)—2,890 bachelor degrees from Negro colleges and 173

from mixed colleges; master's degrees, 182 (42 awarded at Howard, 34 at Atlanta, and 17 at Fisk). Meharry and Howard graduated 30 doctors of medicine. There were 12 doctors of philosophy. Howard, with 2,403 students, had the largest enrollment among Negro colleges. It celebrated its 70th commencement on June 4-5. New York University had an enrollment of 556 Negroes (see Norfolk, Va., *Journal and Guide*, Aug. 12, 1939).

In 21 states, during 1932-1933, there were 38,274 Negroes enrolled in 117 institutions of higher education (see *Special Problems of Negro Education*, Chapter IV). Fifty per cent of the enrollment was in private institutions (Ohio, 100 per cent; Mississippi, 73 per cent; Virginia, 71 per cent; North Carolina, 36 per cent; West Virginia and Kentucky, 3 per cent; District of Columbia, 1 per cent.

In 1933-1934 the number of students in higher institutions of education per 1,000 population in 17 southern states was as follows: white, 60, and Negro 12—that is, the Negro group constituted 25 per cent of the population 18 to 21 years of age whereas only 6 per cent were enrolled in regular session.

"It is on the graduate level that public facilities for the higher education for Negroes are least adequate" (*op. cit.*, p. 65). This has been especially true in public institutions.

During 1937-1938 Howard University, Washington, D.C. enrolled 2,240 students from 42 states and from 16 foreign countries. Forty-six per cent of the students came from 17 southern states.

While it is fair to assume that the Census for 1940 will show considerable improvement in the financial support of Negro education, the base, according to the 1930 figures, was as follows: average annual per-capita outlay for schools for the United States, \$99; whites in the South, \$44.31; Negroes in the South, \$12.57.

### GRADUATE EDUCATION

Graduate education received a vigorous stimulus during 1939, in spite

of criticism at the Washington, D.C. meeting of 23 Negro land-grant presidents and representatives. President J. B. Watson of the Arkansas State College declared that "Negro schools are doing inferior graduate work because they try to cover too much ground" (see Norfolk, Va., *Journal and Guide*, Nov. 25, 1939). President Gandy of Virginia State College asserted that "States have their own ideas of what they are going to do. . . . I have no ill feeling toward any college promoting its own welfare." A resolution of the Berean Valley Baptist Association, meeting at Craigsville in September, opposed a branch university for Negro students at Virginia State College because of the fear that the Commonwealth of Virginia would not give adequate financial support to such a graduate educational project.

The general assembly of North Carolina made an allotment of \$114,800 for a two-year graduate program at the liberal-arts North Carolina College for Negroes (Durham), which began in September—\$60,400 for 1939-1940 and \$54,400 for 1940-1941. This was done on the recommendation of a special commission and Governor Clyde R. Hoey. The legislature also authorized graduate work at the Agricultural and Technical College (Greensboro).

Dr. James E. Shepard, president of the Negro college in Durham, had fought for years to get adequate financial support from North Carolina for a liberal-arts college program. North Carolina by its legislative action saved itself from the embarrassment of a drive similar to the one that achieved victory in the Gaines case. The Negro press (see Chicago *Defender*, July 8, 1939) still insisted that well-equipped Negroes should be allowed, as a matter of democratic principle, to enter the white state university.

Prairie View State College (Texas) granted in June, for the first time, two master of arts degrees. President W. R. Banks had this honor, which "brought in a new era in education."

#### HOWARD UNIVERSITY EXPANSION

Harold L. Ickes, Secretary of the Interior, dedicated in June the \$1,106,000 Founders' Library at Howard University (see Norfolk, Va., *Journal and Guide*, June 3, 1939) and reflected on the inadequacy of library facilities for Negro citizens.

"In 1935," he said, "only 85 of the 565 public libraries in the Southern States served the 9,000,000 Negroes living in these States. Indeed, only 1,500,000 Negroes reside in places where public library service is available. In 1935 there were only 90 colleges for Negroes and these colleges had a total of only 1,000,000 volumes as compared with 10,000,000 volumes in 451 institutions of higher learning for whites."

President Mordecai W. Johnson of Howard addressed an audience of 2,000 persons in the library which provides 900 study seats and room for 500,000 volumes (700,000 with extensions). The present Howard library (Walter Daniel, librarian) contains 112,500 volumes and employs a full-time staff of 13 workers. The new library will house the collection of 3,000 books, pamphlets, and other material on Negro life and history which were given by the Howard trustee and alumnus, Dr. Jesse E. Moorland, well known as a Y.M.C.A. secretary. The library contains a union catalogue of 30,000 cards which gives a full index of printed material on the Negro which is located in eight college and public libraries, including the Library of Congress.

The Founders' Library was designed by a Negro architect, Albert I. Cassell, trained at Cornell University, who included the idea of a National Negro Museum, in which there will be preserved valuable material relating to the history, ethnology, and art of the minority group. The idea of the Museum is also to encourage field and archaeological expeditions to widen existing historical knowledge of the Negro in Africa, Asia, Europe, West Indies, South and Central America, and the United States. This library-museum was built out of PWA funds and was dedicated to the memory of



## THE EDUCATION OF NEGROES

General O. O. Howard and other founders of Howard. It is a part of the Howard "twenty-year plan" to cost \$10,000,000 which will be carried forward jointly by the Federal Government and the university board of trustees.

### LAND-GRANT COLLEGES

During 1937-1938 the 17 Negro land-grant colleges enrolled nearly 75 per cent of the students in all public institutions of higher education for Negroes and about 33 per cent of the total in public and private institutions combined (see *Special Problems of Negro Education*, p. 72). The Negro land-grant colleges placed the emphasis on teacher education.

The presidents of the land-grant colleges, who met at Howard University late in November, 1939, elected W. H. Bell, president of Alcorn A. and M. College (Mississippi), and J. M. Gandy, president of Virginia State College, as their president and secretary for 1939-1940.

The Negro point of view on social trends in education was presented by Dr. E. Franklin Frazier, professor of sociology at Howard University, to the presidents of land-grant colleges: He said: "The colored man, upon completion of his education, is not going back to the farm. . . . In the first place, they do not need colored labor, and he is not ready to participate in some steps the Government plans and undertakes in the new system of agriculture in the South. The colored man makes progress to the extent in which he has been able to break down his isolation. One-third of the colored population now lives in cities and old ideas of education do not fit the present pattern of life" (see *Baltimore Afro-American*, Nov. 25).

Some significant achievements of the Negro land-grant colleges follow (see *National Education Outlook among Negroes*, June, 1939): (1) President J. B. Drake, Normal, Ala., reported an increase in enrollment from 231 in 1936-1937 to 344 in 1938-1939; (2) President John B. Watson, Pine Bluff, Ark., reported his institution "fully certificated and completely

equipped for a four-year college program"; (3) President R. S. Grossley, Dover, Del., reported a re-organization and re-direction of college program in home economics and agriculture to meet the demands of the revised Federal program of vocational education; (4) President R. B. Atwood, Frankfort, Ky., indicated an enrollment of over 600 students; (5) President Felton G. Clark, Scotlandville, La., reported a combination state and Federal building program of \$1,250,000; (6) President W. H. Bell, Alcorn, Miss., called attention to the improved preparation of his teaching staff; (7) President W. J. Hale, Nashville, Tenn., noted the contributions of staff members to the literature of their fields of study; (8) President W. R. Banks, Prairie View, Tex., referred to graduate work being done in agriculture, educational administration and supervision, rural sociology and economics; (9) President J. M. Gandy, Ettricks, Va., summarized an extensive building program that had been carried through successfully, as well as the significance of a student enrollment of 1,077 for 1938-1939; and (10) President J. W. Davis, Institute, W.Va., noted 13 items of progress, including an increase in enrollment from 27 in 1919-1920 to 857 in 1938-1939, year-round service, work for teachers-in-service, mining extension work, 4-H camp for Negroes, and exhibits of the creative and productive efforts of Negroes.

### COLLEGE ENROLLMENT

According to Martin D. Jenkins of Howard University (see *Journal of Negro Education*, 8:247-253, April, 1939) the Negro college enrollment for 1938-1939 was approximately 36,400 in 109 institutions. This enrollment represented an increase of five per cent over 1937-1938 (as compared with an increase of 6.6 per cent for white institutions). The Negro freshman enrollment for 1938-1939 was 12,969, an increase of 4 per cent over 1937-1938.

Women constituted 57 per cent of the Negro college enrollment for 1938-1939.

Thirty-two publicly controlled in-



stitutions reported an enrollment of 16,138 students; 67 privately controlled, 19,302 (see *School and Society*, 50:141, July 29, 1939). Seven Negro institutions offered work leading to the master's degree, with an enrollment of nearly 500 students (54 per cent women).

Approximately 3,000 Negro students attended Northern colleges and universities.

### VOCATIONAL EDUCATION

According to the 1930 census there were 5,503,535 gainfully employed Negroes in the United States. In agriculture, domestic, and personal service 65 per cent or 3,564,044 were found (18 southern states, 70 per cent). Manufacturing and mechanical pursuits had attracted only 19 per cent of the Negro workers of the nation. The South alone had attracted 16 per cent.

"Whereas Negroes constituted 11 per cent of all workers in the Nation, they constituted 19 per cent of the agricultural workers and 32 per cent of the workers in domestic and personal service" (see *Special Problems of Negro Education*, p. 90). This gives some idea of the occupational status of the Negro group.

In 1934-1935 (*op. cit.*, p. 93) there were in 18 southern states some 73,428 Negroes enrolled in vocational-education classes—agriculture, 39,938; home economics, 21,370; trades and industry, 12,120. Virginia led with a total of 13,613. Kentucky trailed with 219. The percentage of Negro enrollment in vocational-education courses was as follows: 1931, 14; 1932, 16; 1933, 16; 1934, 16; 1935, 16. The total Negro enrollment ran as follows: 46,074; 55,702; 54,522; 62,913; 76,137—from 1931 through 1935.

In 1934-1935 the expenditures from Federal funds for Negro vocational education in 18 states amounted to \$354,934, or 10 per cent, when Negroes constituted 21 per cent of the population; that is, 48 per cent of a proportionate share (see *op. cit.*, p. 97). Indeed, Negroes found themselves short some \$422,801. If the expenditures for teacher training should be included, then the proportionate share

for Negroes would drop to 46 per cent, with South Carolina at 21 per cent and Oklahoma at 135 per cent.

In vocational education for Negroes an effort is being made to give the opportunity that is needed, plus the financial support that is necessary to provide the opportunity. Negroes have made a fine response to vocational-education courses, especially since "Negro jobs" have been disappearing.

### EXTENSION WORK

A training school for 120 Negro extension workers, an experiment in the education of leaders in agriculture, was held at Hampton Institute, July 10 to 29, under the direction of John B. Pierce, field agent of the U.S. Department of Agriculture. Eight courses were offered: extension methods, National farm programs, soil management, feeding the family for economy and health, gardening and small fruits, poultry, home industries, and farm meats. Six of the courses carried some college credit. Agents attended from Florida, South Carolina, North Carolina, Virginia, Tennessee, and Maryland.

Mr. Pierce outlined the problem of the southern Negro farmer as that of "finding something to eat, something to wear, somewhere to stay, and the means of educating his children" (see Norfolk, Va., *Journal and Guide*, July 6, 1939). The extension service throughout the South continued its effective work of teaching Negroes on the farm to own land and become self-supporting. This program in 14 states reached a fair proportion of 185,166 Negro farm owners and 314,227 operators, as well as some of the 629,070 tenants and 380,355 croppers.

Extension work, applied to Negro schools, was carried forward in each of the southern states by 20 to 25 Jeanes supervisors, who work under the direction of President Arthur D. Wright of the Southern Education Foundation, Washington, D.C.

### LAW EDUCATION

The first state-maintained law school for Negroes was opened in St. Louis on Sept. 20 under the direction of

## THE EDUCATION OF NEGROES

Lincoln University (see *School and Society*, 50:339, Sept. 9, 1939). This action was made necessary by the decision of the U.S. Supreme Court in the Gaines case. In October, Will Shafroth, examiner for the American Bar Association, reported to President Scruggs of Lincoln University (Jefferson City, Mo.) that the law school in St. Louis "in respect to the library, the number of full-time teachers, admission requirements, and length of the course" complied with Association requirements.

### ADULT EDUCATION

Dr. Ambrose Caliver, U.S. Office of Education specialist in education of Negroes, enumerated the special problems (see *School Life*, June, 1939) which vitally affect Negroes: (1) educational, including high illiteracy, out-of-school children, and inadequate schooling; (2) economic, including occupational adjustment, agriculture and domestic service, and distributive occupations, and (3) social, including workmen's compensation, unemployment insurance, wages-and-hours regulations, social security, employee representation.

Dr. Caliver listed some of the basic problems of Negroes: efficiency in daily living; wise use of leisure time; development of native gifts (natural humor, emotional depth, artistic and musical ability); and mental hygiene instruction. Negro adult education, he said, was important because of the extensive migration of Negroes and because of the national necessity for conserving the talents of all the citizens. Inadequate education and limitation of opportunities have hitherto restricted Negro achievement, according to Dr. Caliver. The way to help Negroes, he suggested, was pointed out by the American Adult Education Association, sponsored by the Carnegie Foundation which conducted in Atlanta, Ga. a three-year experiment for whites and Negroes with common objectives.

Negro adult education of the newest order has aimed to adjust Negroes to democratic and technological life and to assure Negroes the possibility

of making the greatest possible contribution to American economic and social life.

### HEALTH EDUCATION

The first regional conference of college health workers was held in Atlanta April 7-8, where 61 individuals from 30 institutions met to discuss such major problems as "Health Education and Health Supervision in Negro Colleges" (Dr. Paul B. Cornely); "An Adequate Student Health Program for a Small College" (Dr. M. J. Bent); "A Tuberculosis Case-Finding Program" (Dr. Howard M. Payne); "Venereal Disease Problem" (Dr. W. F. Snow); "Entrance Health Examination" (Dr. R. H. Carter and Dr. R. A. Billings); and "Hygienic Teaching" (Eleanor M. Larsen, F. L. Forbes, and Lucy O. Oxley). The proceedings of this Atlanta meeting were published in June by the National Tuberculosis Association, New York.

From Jan. 12 to 14 the Second National Conference on the Problems of the Negro and Negro Youth was held in Washington, D.C. Dr. M. O. Bousfield, director of Negro health for the Rosenwald Foundation, Chicago, served as chairman of the Committee on Health and Housing which made the following recommendations: appointment of a qualified Negro physician as special assistant to the Surgeon-General; protection of Negroes, if and when a national health program is inaugurated; determination of the need of health centers in Negro communities; establishment of a Negro tuberculosis hospital and pre-ventorium in the South; assignment of Negro professional workers in the national campaign against syphilis; consideration of Negroes in the program for industrial hygiene; integration of Negroes into the national health program; adequate psychiatric care of Negroes; equalization of salaries for Negro nurses; extension of medical care of Negro mothers and children; adequate training of Negro public health nurses; birth-control information and service.

## FEDERAL SURVEY

The Federal Government set aside \$40,000 for a two-year study of higher education among Negroes (see *School Life*, November 1939), which will deal with the qualitative aspects of education, according to Dr. Ambrose Caliver, who added: "While public support of public colleges for Negroes has increased tremendously, most of them are still inadequately financed. . . . The privately-controlled institutions are faced with gradually decreasing support."

The Federal survey will assemble data that indicate needed programs and the nature of services that will meet those needs. It will consider the following topics: "Co-ordination and co-operation within and among Negro institutions; cost of maintaining a satisfactory college and university; and vocational education." Fred J. Kelly and Dr. Caliver, both of the U. S. Office of Education, will direct the study under the general supervision of Bess Goodykoontz, assistant commissioner of education.

## NATIONAL YOUTH ADMINISTRATION

The Second National Conference on the Problems of the Negro and Negro Youth was held in Washington, D.C., January 12-14 (see *Proceedings*, published in May, edited by Mary McLeod Bethune, general chairman). There were 225 registered delegates "representing a cross-section of Negroes from every section of the country." Seven sets of problems were given special consideration: social and economic security; education and recreation; farm tenancy; health and housing; public employment; youth today; civil liberties and political suffrage. The reports emphasized what the Federal Government could do to improve the status of American Negroes.

Mrs. Bethune, director of the Division of Negro Affairs in the NYA, noted the adherence of the Negro minority to the fundamental principles of democracy and the need of giving the minority group "political equality, economic opportunity, and . . . basic civil rights."

John W. Davis, chairman of the Committee on Education and Recreation, made the following recommendations: (1) "Whenever Federal monies are allocated in aid of education to a state or territory, which maintains separate educational facilities based on race or color, the amount of such funds expended for Negroes shall not represent a smaller proportion than the ratio which the Negro population bears to the total." (2) "Federally supported or controlled educational institutions or agencies, including the Military Academy and the Naval Academy be operated without discrimination." (3) "Recreational and educational centers be provided as integral parts of all Federal low-cost housing projects." (4) "All facilities, services, and privileges in National parks, forests, and other centers be made available to Negroes without discrimination." (5) "More work and recreational camps be provided for the youth of the Nation and for underprivileged Negro women."

President Davis' committee emphasized the importance of setting up local Negro advisory committees that could assist in carrying into action the best group thinking on the improvement of education and recreation among American Negroes.

The Evaluation Committee (Mrs. Bethune, chairman) included the following needs: Federal anti-lynching legislation; elimination of discrimination in Federal Civil Service; unrestricted use of the ballot; continuation of an adequate and federally administered work-relief program; an expanded low-rent housing program; extension of social-security benefits to agricultural and domestic workers; participation in the program of the Federal Housing Administration; additional policy-making positions; a national health program; and extension of youth-service programs. It expressed the following conclusion: "One of the great tragedies of American life has been and still is the denial of opportunity to a rising army of trained Negro youth. We are equipping them for service and then slamming the door of opportunity shut in their faces. They grow rest-



## THE EDUCATION OF NEGROES

less and may prove fertile ground for the seeds of resentment and of false political and economic doctrine."

The Evaluation Committee also recommended that Negro personnel should find a place in all agencies of the Federal Government that dealt with employment programs; that Negroes should serve on all State and local administrative and policy-making agencies; that qualified Negroes should be appointed to membership on the Federal Committee on Apprenticeship Training; and that Negroes should serve on state and local apprenticeship-training committees.

### CIVILIAN CONSERVATION CORPS

At the fifth annual conference of the Colored Camp Educational Advisers, held at Hampton Institute July 23-29 under the direction of Dr. Thomas Gordon Bennett, third corps area educational adviser, the late Director Robert Fechner of the Civilian Conservation Corps declared that "for some 2,500,000 youth camp education has had a definite place in training to increase their employability, to do a better job and to hold a better job" (*The Adviser*, September, 1939). There were 29 Negro CCC educational advisers in the third corps area during 1939.

Dr. Howard W. Oxley, director of CCC Camp Education, stated that in Negro camps the CCC had their own educational buildings with basic equipment. "The primary purpose of the CCC," he added, "is the welfare and training of youth." He listed the following items as major problems: guidance, curriculum, professional training, equipment and supplies, records and reports.

Negroes in the CCC camps usually average about 10 per cent of the total enrollment. These young people are chiefly on the elementary-school level, 53.7 per cent, and are nearly 19 years old. About 33.5 per cent are on the high-school level; college, 5.2 per

cent. The majority of these young men have never had systematic vocational training or occupational guidance" (see *School Life*, January, 1939). Every Negro educational adviser has had a bachelor's degree; master's degree, 13.2 per cent.

The 1939 Negro CCC program included vocational courses in cooking, table-waiting, mess management, shoe-repairing, barbering, laundering, tailoring, and store management.

### PUBLICATIONS

Important bibliographical material on the Negro and his problems appeared in the *Journal of Negro Education* (Howard University, Washington, D.C.) and in the *American Youth Bulletin* (American Council on Education, Washington, D.C.), as well as in the following publications: Armstrong, Byron K., *Factors in the Formulation of Collegiate Programs for Negroes* (Ann Arbor, Mich.: Edwards Brothers).

Bond, Horace M., *Negro Education in Alabama* (Washington, D.C.: Associated Publishers).

Doyle, Bertram W., *Etiquette of Race Relations* (Chicago: University of Chicago Press).

DuBois, W. E. B., *Black Folks—Then and Now* (New York: Holt).

Frazier, E. F., *Negro Family in the United States* (Chicago: University of Chicago Press).

*North Carolina Negro Educators* (Chapel Hill, N.C.: University of North Carolina Press).

Reid, Ira De A., *Negro Immigrant* (New York: Columbia University Press).

Thompson, Charles H., (Editor) "Position of the Negro in the American Social Order," *Journal of Negro Education*, 8:261-616, July, 1939 (Washington, D.C.: Howard University).

Wilkerson, Dorey A., *Special Problems of Negro Education* (Washington, D.C.: Government Printing Office).



## LIBRARIES

BY MILDRED OTHMER PETERSON

AMERICAN LIBRARY ASSOCIATION

## FEDERAL RELATIONS

Librarians and friends of libraries again supported in the first session of the 76th Congress bills embodying recommendations of President Roosevelt's Advisory Committee on Education (see THE AMERICAN YEAR BOOK, 1938, "Libraries"). In the Senate, S.1305 was recommended for passage by the Senate Committee on Education and Labor. In the House, a companion bill, H. R.3517, was referred to the Committee on Education but was not brought up for action. Both bills retained their status when Congress reconvened in January, 1940.

Indirect Federal aid received from the relief agencies of the Government has been expanded and improved. Books are reaching some 2,000,000 of the people who have not regularly established public library service through Work Projects Administration and National Youth Administration rural library projects which are supervised by trained librarians. There are many projects for assistance to local library and bibliographical enterprises.

Government funds for book service have also been available in some resettlement communities and in the areas served by the Tennessee Valley Authority. Improved educational and library services benefiting millions of persons throughout the United States are the results of the reduced postal rates on books effective until June 30, 1941. President Roosevelt appointed Dr. Archibald MacLeish Librarian of Congress, effective October 1, upon the retirement of Dr. Herbert Putnam, who had served as librarian for 40 years.

## STATE DEVELOPMENTS

Results of 1937 and 1938 state appropriations for library services had been of sufficient importance for the A.L.A. Library Extension Board to

set information and advisory service in state-aid as a major objective for the year. Approximately a third of the states planned legislative campaigns. Arkansas, Ohio, Pennsylvania, and Vermont made or renewed appropriations for large unit libraries ranging from \$12,500 to \$50,000 a year. The New Hampshire Library Commission continued a regional experiment, and two regional libraries in Louisiana still benefit from a 1938 biennial appropriation. In an effort to balance the state budget, Michigan repealed the appropriating section of its state-aid act of 1937 for a continuing annual state-aid fund of \$500,000.

Legislative action toward providing or strengthening official state library leadership was taken by five states (Alabama, Illinois, Iowa, Tennessee, and West Virginia), and new laws or amendments to older legislation were passed permitting regional or joint county library service in Alabama, Connecticut, Indiana, Montana, West Virginia and Wisconsin.

More than 400 counties now have county or regional library service for which at least \$1,000 annually is appropriated from county or state funds. Many more counties are making small contributions to demonstration, W.P.A. and other rural projects.

In 1939 Oregon and Illinois joined ten other states in appointing state school library advisors. Louisiana continued to provide \$300,000 for the purchase of school library books; Virginia also appropriated \$100,000 for each year of the 1938-40 biennium; Georgia \$150,000, and Tennessee \$70,000 for the past year. Local funds must match state appropriations in Virginia, Georgia and Tennessee.

## SERVICE OF ESTABLISHED LIBRARIES

In 1934 approximately 45,000,000 persons in the United States were

## LIBRARIES

without library service. Today there are about 42,000,000 or 34 per cent of the population. About 92 per cent of those without libraries live in rural communities. Out of 3,000 counties, 897 do not have a public library. Compilations show that in 1937-38 the book stock of free public libraries in the United States was 106,772,777 volumes, with a circulation of 403,829,386 volumes. Expenditures by these libraries totaled \$51,594,137, or 42 cents per capita based upon the total United States population. Use of libraries is again on the increase. All but one of 36 large cities questioned in December, 1938, reported larger circulations than in 1937. Business recession, more new books, new branches and new library activities, expanding adult education programs of libraries and other agencies, and the recurring European crises were given as possible explanations of the increase.

### ADULT EDUCATION

Readers advisory services have been established in about ten libraries of medium size and have been extended to branches in some large cities. Public libraries in 64 cities now have definite library services, as have six college libraries. Many small libraries are studying and experimenting to determine what adult education activities are possible with a small staff and limited book supply. Some libraries are assuming the leadership of general adult education in their local communities and in their states. Library schools are adding courses and conducting institutes on the adult education services of the library. The A.L.A. Adult Education Board sponsored the publication of several books and articles in professional publications upon the subject of adult education.

### SURVEYS AND STUDIES

Upon request, the A.L.A. has conducted and published surveys of the Sheboygan Public Library, Michigan State Library and University of Georgia Library. It will also make a survey of library personnel and training agencies in Tennessee as it

has in Indiana and Michigan. *The Appraisal Study of the Cleveland Public Library* was undertaken and published by the Graduate Library School of the University of Chicago. Another published survey is *The St. Louis Public Library, Today and Tomorrow* by Charles H. Compton, librarian of the St. Louis Public Library.

"Certain Aspects of School Library Administration" (*N.E.A. Research Service Circular No. 6*, May, 1939) summarizes the results obtained through questionnaires from 240 school systems. An analysis and measurement of school library service was published in "Evaluation of the Secondary School Library" (*Cooperative Study of Secondary School Standards*, 1939).

Following are other reports of investigations conducted in the library field which appeared in the *Library Quarterly* during 1939: "The Testing Program in the Library" by Alice I. Bryan (9:32-62 January); "Community Studies in Reading, IV, a Middle-Western Manufacturing Community" (Alliance, O.) by Laurel Krieg (9:72-86, January); "Public Library Provision of Books about Social Problems" by Lowell Martin (9:249-72, July); "Holdings of Incunabula in American University Libraries" by Fremont Rider (9:273-84, July); "Other Aspects of Union Catalogs" by Maurice F. Tauber (9:411-31, October); and "Library Unionization" by Bernard Berelson (9:477-510, October).

### LIBRARY TRAINING

In addition to conducting surveys of library personnel and training agencies, the A.L.A. Board of Education for Librarianship devoted considerable time during the year to co-operation with library schools and other agencies and to the development of state plans for the education and certification of librarians.

The Board published a statement on correspondence courses in library science in which it stressed the opinion that such courses do not offer adequate instruction in library service, that the professional education

of librarians is not adaptable to correspondence study, and that study in residence should be required of all library school students.

This Board and the Board on Salaries, Staff, and Tenure jointly issued a statement strongly urging that the bachelors degree in library science be accorded the same salary rating as a master's degree in a subject field, since both degrees normally represent five years of college study.

New subject courses were introduced by several library schools as were in-service training through institutes, seminars, and short courses. With the accrediting of the University of Southern California School of Library Science and the Texas State College for Women Department of Library Science, there are 30 library schools now in operation in the United States and Canada that are accredited by the A.L.A. Board of Education for Librarianship. Hampton Institute Library School, the only library school exclusively for Negroes, was closed in June, 1939, through financial necessity. The library schools of the University of Denver and Pratt Institute each received a grant of \$50,000 from the Carnegie Corporation of New York which also gave grants-in-aid for advanced study in librarianship to five applicants from the United States and one from Canada.

#### LIBRARY PERSONNEL

The publication by the A.L.A. Board on Salaries, Staff, and Tenure of the *Classification and Pay Plans for Municipal Public Libraries* marks the accomplishment of the first step in the preparation of plans for all types of libraries, which will include libraries in institutions of higher education, school libraries, and county libraries. The Board has also spent considerable time on the question of civil service in libraries, on which it is planning a book, on the subject of tenure of position upon which material is being collected, and on work with the U.S. Bureau of Immigration concerning the entrance of foreign librarians who wish to be placed in this country.

#### GIFTS, GRANTS, AND BUILDINGS

During the year many notable grants, and gifts of books, manuscripts and buildings have been made to libraries. The people of the United States have received from President Roosevelt all of the papers, books, journals, and other material collected during his years in public life. The gift also includes 12 acres of his estate, upon which a library will be built by means of private subscription. The responsibility for the maintenance and operation of the library will be assumed by the Federal Government.

Miss Annie-May Hegeman has deeded to the Library of Congress Trust Fund a valuable piece of property in downtown Washington, the proceeds of which, when sold, will be divided equally with the Smithsonian Institution.

Universities receiving gifts include Johns Hopkins University, the library of Dr. John Martin Vincent and a bequest from Dr. Vincent of \$1,000,000; University of Virginia, a rare library on American history from the late Tracy W. McGregor; University of Louisville, legal papers of Justice Brandeis; Yale Law Library, \$250,000 from John A. Hooper for the establishment of a book fund provided \$750,000 is given by other alumni and friends of the school; Yale University Library, \$25,000 from Mrs. George B. Alvord for the purchase of books and manuscripts in the field of American literature; Connecticut College, a valuable collection of rare volumes on Venetian history; Stanford University, \$600,000 from various foundations and individual donors for a building to house the Hoover Library on War, Revolution and Peace; Princeton University, \$366,000 from Cyrus and Gordon McCormick, in memory of their father, Cyrus Hall McCormick, as an endowment for the maintenance of the proposed new library building, and \$100,000 from Miss Jessie Munger for the library's treasure room; Colby College, Waterville, Me., a gift from Merton L. Miller which will make possible completion of a \$450,000 library building; and



## LIBRARIES

Bucknell University, Lewisburg, Pa., \$50,000 toward construction of a new library.

Burnside, Conn., has received a \$30,000 library building and ground from Mr. and Mrs. Clarence Horace Wickham; Passaic, N.J., was presented with a new library by Julius Forstmann on the site of his old residence; Claverack, N.Y., was given a bequest of \$50,000 from the estate of Arthur LaGrange, and the Lancaster and Wilkes-Barre, Pa., libraries have received gifts of book trucks for county and playground service.

Among the new libraries being constructed with the aid of grants from the Public Works Administration are Toledo Public Library, \$2,000,000; University of Alabama, over \$500,000; Southwest Missouri State Teachers College Library, Cape Girardeau, \$350,000; Chattanooga Public and University Libraries, \$300,000; Mason City, Iowa, Public Library, \$350,000; University of Georgia Library, Athens, \$315,000; State College of Education Library, Greeley, Col., \$207,000; and Central Missouri State Teachers College Library, Warrensburg, \$227,000.

New libraries completed in 1939 include Oregon State Library, Salem; Connecticut State College Library, Storrs; Bennett College Library, Greensboro, N.C.; Babson Institute Library, Wellesley, Mass.; and State Teachers College Library, Winona, Minn. A new wing was completed at Brown University Library, Providence, R.I.

### FRIENDS OF THE LIBRARY GROUPS

About 150 of these groups varying in size from 40 or 50 members to those numbering 800 or 1,000 have been organized under A.L.A. auspices to function on behalf of libraries. Objects of college and university groups are to maintain an association of persons interested in books; to assist in bringing to the library important materials beyond the command of the ordinary budget through gifts of books, pamphlets, documents, manuscripts and periodicals; to build up the library resources

by uniting a large number of small contributions; and to help in the obtaining of buildings, and browsing and memorial rooms. Objects of public library groups are to focus attention on library needs; to stimulate gifts of books, magazines, desirable collections, endowments and bequests; to increase local tax appropriations, secure a new building, branch or wing; to enrich the cultural opportunities of the community and to sponsor such projects as book fairs, exhibits, story hours and book talks.

### AMERICAN LIBRARY ASSOCIATION

Officers for 1939-40 elected at the 61st annual conference are Ralph Munn, Pittsburgh, president; Essae M. Culver, Baton Rouge, La., vice-president and president-elect; Donald Coney, Austin, Tex., second vice-president; and Matthew S. Dudgeon, Milwaukee, treasurer. The conference was held in San Francisco June 18-24, 1939, with about 3,000 of the Association's 15,500 members present. The midwinter conference was held Dec. 27-30, 1939, in Chicago and the 1940 conference will be held May 28 to June 1 in Cincinnati. Headquarters of the Association, which has a staff of 75 persons, are at 520 North Michigan Avenue, Chicago, Carl H. Milam, executive secretary.

The annual midwinter meeting of the Association was held in Chicago, Dec. 27-30, 1938, with a record attendance of 862 librarians and library trustees. At that time the Executive Board acknowledged with appreciation the Carnegie Corporation's appropriation of \$10,000 toward support of a program of republication of out-of-print books in demand; approved a Federal depository library survey in order to work out a plan for distribution which would more nearly meet the needs of Federal document users; and discussed the microprint process which would permit printing of a 300-page book in a leaflet of three pages, reading of which would be by machine. The Council adopted a "Code of Ethics for Librarians" (*A.L.A. Bulletin* 33:128-30, February, 1939); revised



the "National Plan for Libraries" (*A.L.A. Bulletin* 33:136-50, February, 1939); discussed the A.L.A. "Reorganization Plan" (*A.L.A. Bulletin* 33:130-32, 135, February, 1939; *ibid.*, 361-448, June, 1939, and the issue for December, 1939); and discussed the Federal Aid Bill (*A.L.A. Bulletin* 32:1011-12, 1072, December, 1938; *ibid.*, 33:6-8, January, 1939, and succeeding 1939 issues of the *Bulletin*).

At the annual conference held in San Francisco, June 18-24, 1939, about 3,000 librarians and friends of libraries attended, from not only the United States and Canada but also the Hawaiian Islands, Venezuela, Brazil, Chile, Colombia, Mexico, England, Norway, Union of South Africa, Eire, and Costa Rica. During the conference four awards were announced: Dr. Herbert Putnam, librarian emeritus of the Library of Congress, was presented with the Joseph W. Lippincott award of \$500 for "the most outstanding contribution to librarianship"; Dean Louis Round Wilson, head of the Graduate Library School of the University of Chicago, was given the James Terry White award, a medal, for "notable published professional writing" for his study of the *Geography of Reading*; Elizabeth Enright received the 18th Newbery award, given for the "most distinguished contribution to children's literature" written during the last year, for her book, *Thimble Summer*; and Thomas Handforth was awarded the 2nd Caldecott Medal, given for the "most distinguished American picture book for children published during 1938, for his book *Mei Li*. The Council adopted the "Library's Bill of Rights" (*A.L.A. Bulletin* 33:60-61, Oct. 15, 1939); passed a resolution requesting that the new low postage book rate include not only books, as it does now, but also indexes, bibliographies, and other tools for research and study; and adopted a statement of policy regarding gifts and bequests to libraries (*A.L.A. Bulletin* 33:59-60, Oct. 15, 1939).

The total income of the A.L.A. in 1938-39, excluding cash balances, which were \$35,282 on Sept. 1, 1938,

was \$356,026. The largest items of expenditure were for the publication of Association and professional literature, for carrying out definite projects for which grants had been specifically given, and for the promotion of professional library education and activities. The Association's endowment is now approximately \$2,179,000.

#### PUBLICATIONS

Four periodicals are published by the A.L.A.: *Bulletin* of the American Library Association, a monthly; the *Booklist*, a semi-monthly; the *Subscription Books Bulletin*, a quarterly; and the *Journal of Documentary Reproduction*, a quarterly.

A new quarterly for college, university and reference librarians, entitled *College and Research Libraries*, has been undertaken in 1939-40 as a publication of the Association of College and Reference Libraries, a section of the A.L.A.

Some additional 1939 A.L.A. publications, not previously listed were: *American Librarianship from a European Angle*, *The Library of Tomorrow*, *Hospital Libraries*, *Helping Adults to Learn*, *College and University Library Buildings*, *Personnel Administration in Public Libraries*, *Vitalizing a College Library*, *Teaching with Books*, a *Study of College Libraries* (published jointly with the Association of American Colleges), new editions of *The Library in the School*, *Basic Reference Books*, and *Code for Classifiers*, and a variety of other books, pamphlets, and book lists.

Some other recent publications include: Thomas R. Adam, *The Museum and Popular Culture* (American Association for Adult Education, 1939); *Bibliographic Index*, a cumulative bibliography of bibliographies, quarterly with annual cumulation, began publication 1938 (H. W. Wilson); Arthur E. Bostwick, *A Life with Men and Books* (H. W. Wilson, 1939); Lester Condit, *A Pamphlet about Pamphlets* (Univ. of Chicago Press, 1939); Dorothy E. Cook and Eva Rahbek-Smith, *Educational Film Catalog* (H. W. Wilson, rev. ed., 1939); Talbot Hamlin, *Some Euro-*

## PERIODICAL PUBLICATIONS

*pean Architectural Libraries, Their Methods, Equipment and Administration* (Columbia Univ. Press, 1939); James C. M. Hanson, *A Comparative Study of Cataloging Rules*, based on the Anglo-American code of 1908 (Univ. of Chicago Press, 1939); Hilaire and Meyer Hiler, *Bibliography of Costume* (H. W. Wilson, 1939); Carleton B. Joeckel, *Current Issues in Library Administration* (Univ. of Chicago Press, 1939); Andrew D. Osborn, *Prussian Instructions, Rules for the Alphabetical Cataloging of the Prussian Libraries*, translated from the 2d ed. (Univ. of Michigan Press, 1938); Laurence F. Schmeckebier,

*Government Publications and Their Use* (Brookings Institution, rev. ed., 1939); Minnie E. Sears, *List of Subject Headings for Small Libraries*, 4th ed., rev. by Isabel Stevenson Munro (H. W. Wilson, 1939); James W. Thompson, *The Medieval Library* (Univ. of Chicago Press, 1939); Douglas Waples, *Investigating Library Problems* (Univ. of Chicago Press, 1939); Douglas Waples and Leon Carnovsky, *Libraries and Readers in the State of New York* (Univ. of Chicago Press, 1939); Martha Wilson, *School Library Management*, 6th ed., revised and rewritten by Althea M. Currin (H. W. Wilson, 1939).

## PERIODICAL PUBLICATIONS

### *American Teacher*

506 South Wabash Ave., Chicago.

### *Business Education World*

270 Madison Ave., New York City.

### *Child Study*

221 West 57th Street, New York City.

### *Education*

120 Boylston Street, Boston.

### *Educational Method*

525 West 120th Street, New York City.

### *Educational Record*

744 Jackson Place, Washington, D.C.

### *Industrial Arts and Vocational Education*

524 North Milwaukee Street, Milwaukee, Wis.

### *International Journal of Religious Education*

203 North Wabash Ave., Chicago.

### *Journal of Adult Education*

60 East 42nd Street, New York City.

### *Journal of Business Education*

Wilkesbarre, Pa.

### *Journal of Education*

6 Park Street, Boston.

### *Journal of Educational Psychology*

Baltimore, Md.

### *Journal of Educational Sociology*

32 Washington Place, New York City.

### *Journal of Engineering Education*

University of Pittsburgh, Pittsburgh, Pa.

### *Journal of Geography*

3333 Elston Ave., Chicago.

### *Journal of Higher Education*

Ohio State University, Columbus, Ohio.

### *Journal of Negro Education*

Howard University, Washington, D.C.

### *Journal of Physical Education*

347 Madison Ave., New York City.

### *Journal of the National Education Association*

1201 Sixteenth Street N.W., Washington, D.C.

### *Junior College Journal*

Stanford University Press, Palo Alto, Calif.

### *Library Journal*

62 West 45th Street, New York City.

### *Library Quarterly*

5750 Ellis Ave., Chicago.

### *National Parent-Teacher Magazine*

420 Lexington Ave., New York City.

### *National Student Mirror*

8 West 40th Street, New York City.

### *Occupations*

551 Fifth Ave., New York City.

### *Parents' Magazine*

9 East 40th Street, New York City.

### *Peabody Journal of Education*

George Peabody College for Teachers, Nashville, Tenn.

### *Pitman's Journal*

2 West 45th Street, New York City.

## XXVII. EDUCATION

### *Progressive Education*

716 Jackson Place, Washington, D.C.

### *Religious Education*

59 East Van Buren Street, Chicago.

### *School Management*

9 East 40th Street, New York City.

### *School Review*

5835 Kimbark Ave., Chicago.

### *World Federation News*

1201 Sixteenth Street N.W., Washington, D.C.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

### GENERAL

AMERICAN ASSN. FOR ADULT EDUCATION, 60 E. 42nd St., New York City.

AMERICAN COUNCIL ON EDUCATION, 744 Jackson Pl., N.W., Washington, D.C.

AMERICAN COUNCIL OF LEARNED SOCIETIES, 907 15th St., Washington, D.C.

AMERICAN FEDERATION OF TEACHERS, 219 Fifteenth St., Toledo, Ohio.

GENERAL EDUCATION BOARD, 49 W. 49th St., New York City.

BUREAU OF EDUCATIONAL REFERENCE AND RESEARCH, University of Michigan, Ann Arbor, Mich.

NATIONAL CONGRESS OF PARENTS AND TEACHERS, 1201 16th St., N.W., Washington, D.C.

NATIONAL COUNCIL OF EDUCATION, Teachers College, Columbia University, New York City.

NATIONAL EDUCATION ASSN. OF THE U.S.A., 1201 16th St., N.W., Washington, D.C.

NATIONAL RESEARCH COUNCIL, DIVISION OF EDUCATIONAL RELATIONS, 2101 Constitution Ave., N.W., Washington, D.C.

NATIONAL SOCIETY FOR THE STUDY OF EDUCATION, University of Minnesota, Minneapolis, Minn.

PUBLIC EDUCATION ASSN., 745 Fifth Ave., New York City.

### INTERNATIONAL

INSTITUTE OF INTERNATIONAL EDUCATION, 2 W. 45th St., New York City.

INTERNATIONAL COUNCIL FOR THE EDUCATION OF EXCEPTIONAL CHILDREN, 3 E. 25th St., Baltimore, Md.

INTERNATIONAL COUNCIL OF RELIGIOUS EDUCATION, 297 Fourth Ave., New York City.

PAN-AMERICAN EDUCATIONAL CONGRESS, Universidad de Chile, Cosilla 2543, Santiago, Chile.

### TEACHERS

AMERICAN FEDERATION OF TEACHERS, 219 Fifteenth St., Toledo, Ohio.

CARNEGIE FOUNDATION FOR THE ADVANCEMENT OF TEACHING, 522 Fifth Ave., New York City.

EDUCATORS ASSN., 307 Fifth Ave., New York City.

NATIONAL STUDENT FEDERATION OF AMERICA, 8 W. 40th St., New York City.

STUDENTS INTERNATIONAL UNION, 522 Fifth Ave., New York City.

TEACHERS UNION, 114 E. 16th St., New York City.

### SCHOOLS

AMERICAN SCHOOL CITIZENSHIP LEAGUE, 295 Commonwealth Ave., Boston, Mass.

CHILD STUDY ASSN. OF AMERICA, INC., 221 W. 57th St., New York City.

NATIONAL ASSN. OF HIGH SCHOOL SUPERVISORS AND INSPECTORS, State Department of Education, Columbus, Ohio.

NATIONAL ASSN. OF SECONDARY SCHOOL PRINCIPALS, 5835 Kimbark Ave., Chicago, Ill.

NATIONAL KINDERGARTEN ASSN., 8 W. 40th St., New York City.

Y.M.C.A. EDUCATIONAL SECRETARIES ASSN., 55 Hanson Pl., Brooklyn, New York City.

### COLLEGES AND UNIVERSITIES

AMERICAN ASSN. OF COLLEGIATE REGISTRARS, George Peabody College for Teachers, Nashville, Tenn.

AMERICAN ASSN. OF JUNIOR COLLEGES, Little Rock Junior College, Little Rock, Ark.

## COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

AMERICAN ASSN. OF UNIVERSITY PROFESSORS, 744 Jackson Pl., N.W., Washington, D.C.

AMERICAN ASSN. OF UNIVERSITY WOMEN, 1634 I St., N.W., Washington, D.C.

ASSOCIATION OF AMERICAN COLLEGES, 19 W. 44th St., New York City.

ASSOCIATION OF AMERICAN UNIVERSITIES, Yale University, New Haven, Conn.

ASSOCIATION OF COLLEGES FOR NEGRO YOUTH, Fisk University, Nashville, Tenn.

ASSOCIATION OF LAND GRANT COLLEGES AND UNIVERSITIES, University of Kentucky, Lexington, Ky.

COLLEGE ENTRANCE EXAMINATION BOARD, 431 W. 117th St., New York City.

NATIONAL ASSN. OF STATE UNIVERSITIES, Miami University, Oxford, Ohio.

NATIONAL UNIVERSITY EXTENSION ASSN., Indiana University, Bloomington, Ind.

NEW ENGLAND ASSN. OF COLLEGES AND SECONDARY SCHOOLS, Tufts College, Medford, Mass.

PHI BETA KAPPA, 145 W. 55th St., New York City.

### PROFESSIONAL EDUCATION

AMERICAN ASSN. OF TEACHERS COLLEGES, State Normal School, Oneonta, New York.

AMERICAN MEDICAL ASSN., Council on Medical Education and Hospitals, 535 N. Dearborn St., Chicago, Ill.

ASSOCIATION OF AMERICAN LAW SCHOOLS, Ohio State University, Columbus, Ohio.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES, 5 S. Wabash Ave., Chicago, Ill.

SECTION OF LEGAL EDUCATION, AMERICAN BAR ASSN., 1140 N. Dearborn St., Chicago, Ill.

SOCIETY FOR THE PROMOTION OF ENGINEERING EDUCATION, University of Pittsburgh, Pittsburgh, Pa.

### SPECIAL EDUCATION

AMERICAN ASSN. TO PROMOTE TEACHING OF SPEECH TO THE DEAF, School for the Deaf, Staunton, Va.

AMERICAN CHILD HEALTH ASSN., 50 W. 50th St., New York City.

AMERICAN HUMANE EDUCATION SOCIETY, 180 Longwood Ave., Boston, Mass.

AMERICAN PHYSICAL EDUCATION ASSN., 311 Maynard St., Ann Arbor, Mich.

NATIONAL ASSN. OF THE DEAF, 3633 E. Tremont Ave., New York City.

### VOCATIONAL

AMERICAN ASSN. FOR THE ADVANCEMENT OF AGRICULTURAL TEACHING, Iowa State College, Ames, Ia.

AMERICAN HOME ECONOMICS ASSN., Mills Bldg., Washington, D.C.

AMERICAN VOCATIONAL ASSOCIATION, 1010 Vermont Ave., Washington, D.C.

NATIONAL VOCATIONAL GUIDANCE ASSN., 25 Lawrence Hall, Harvard University, Cambridge, Mass.

WORKERS EDUCATIONAL BUREAU OF AMERICA, Machinists Bldg., Washington, D.C.

NOTE: For additional educational societies consult U. S. OFFICE OF EDUCATION, Washington, D.C.



NECROLOGY FOR 1939

- ABBOTT, DR. GRACE, head, U.S. Children's Bureau, 60, June 19.
- ALEXANDER OF THURN AND TAXIS, PRINCE, 88, July 21.
- ALSCHULER, SAMUEL, former Federal jurist, 79, November 9.
- ASHLY, MRS. MINNIE, actress, 84, September 5.
- ASPINALL, JOSEPH, former jurist, 84, May 7.
- ASQUITH, BRIGADIER GENERAL A., British soldier, 56, August 25.
- ASTBURY, SIR JOHN, British jurist, 79, August 22.
- BACKHOUSE, ADMIRAL SIR ROGER, 60, July 15.
- BACKUS, GEORGE, actor, 81, May 21.
- BAIRD, F. B., Buffalo iron founder, 86, November 15.
- BAKADUR, SIR A. N. S., Maharajah of Benares, 64, April 5.
- BARRA, F. L. DE LA, former President of Mexico, 76, September 23.
- BATES, ANNA, actress, 69, November 8.
- BAXTER, ELIJAH, painter, 91, August 22.
- BENNETT, LAURA, actress, 79, September 24.
- BERNSTORFF, COUNT J. H. VON, former German Ambassador to U.S., 76, October 6.
- BLEDSE, S. T., railroad president and lawyer, 70, March 8.
- BODANSKY, ARTUR, conductor, 61, November 23.
- BOLTON, C. L., Congressman (Ohio), 57, October 29.
- BOYLE, JAMES, formerly secretary to President McKinley, 85, June 11.
- BRADLEY, C. C., former Federal jurist, 59, July 26.
- BRADY, ALICE, actress, 46, October 28.
- BRANDT, C. E., actor, 68, January 8.
- BREQUET, JACQUES, French airplane manufacturer, 58, March 21.
- BREWSTER, E. V., lawyer and publisher, 67, January 1.
- BRIDGE, J. H., president emeritus of Authors' Club, 83, May 28.
- BRISTOL, REAR ADMIRAL M. L., 71, May 13.
- BRITTON, W. E., entomologist, 70, February 15.
- BROKAW, IRVING, capitalist, artist, figure skater, 69, March 19.
- BROWN, HEYWOOD, newspaper columnist, 51, December 18.
- BROWN, JAMES, British laborite, 76, March 21.
- BROWNING, J. E., gun inventor, 80, May 16.
- BROWNRIFF, REAR ADMIRAL SIR D. E. R., 71, February 14.
- BRUBACHER, A. R., president N.Y. State College for Teachers, 69, August 23.
- BRUCE, BRIGADIER GENERAL C. G., explorer, 73, July 12.
- BRUCHESI, PAUL, R.C. Archbishop of Montreal, 84, September 20.
- BULFIN, GENERAL SIR E. S., 76, August 21.
- BURGESS, F. H., newspaper publisher, 63, July 7.
- BURNETT, BRIGADIER GENERAL CHARLES, 62, November 28.
- BURNHAM, J. B., explorer and game conservationist, 70, September 24.
- BURR, C. E., etcher, 82, November 17.
- BUSCH, GERMAN, President of Bolivia, 35, August 23.
- BUTLER, PIERCE, U.S. Supreme Court justice, 73, November 16.
- CABOT, DR. R. C., advocate of socialized medicine, 70, May 8.
- CALISNESCU, ARMAND, Premier of Rumania, 46, September 21.
- CARSTENS, DR. C. C., executive director Child Welfare League, 74, July 4.
- CARTER, HOWARD, Egyptologist, 66, March 2.
- CHAMBERS, F. M., painter and illustrator, 73, June 11.
- CHANDLER, COL. C. DE F., U.S. Army Air Service pioneer, 60, May 18.
- CHESTERFIELD, HENRY, actor, 62, January 11.
- CHILTON, W. E., former U.S. Senator (W.Va.), 81, November 7.
- CLERGUE, F. H., Canadian industrialist, 82, January 19.
- CLIFFE, H. C., actor, 76, May 1.
- COLCORD, R. K., former Governor of Nevada, 100, October 30.
- COLEBROOKE, LORD, 77, February 26.
- COLEMAN, A. C., educator, 63, August 8.
- COLLIER, BARRON, advertising agent, 65, March 13.

# NECROLOGY FOR 1939

- COLONNA, PRINCE PIERO, Governor of Rome, 48, August 24.
- COMISKEY, J. L., baseball club owner, 54, July 18.
- CONROY, J. H., R.C. Bishop of Ogdensburg, 80, March 20.
- COOK, WARREN, actor, 68, May 2.
- COOKE, T. C., actor, 64, June 9.
- COSTIGAN, E. P., former U.S. Senator (Col.), 63, January 17.
- COUTAN, JULES, sculptor, 91, February 23.
- COWLES, PROFESSOR H. C., botanist, 70, September 12.
- CRANE, C. R., former U.S. Minister to China, 80, February 15.
- CRAVENS, BEN, Congressman (Ark.), 66, January 13.
- CREGAN, N. R., actor, 81, October 9.
- CRISTEA, MIRON, Patriarch and Premier of Rumania, 71, March 6.
- CROCKER, W. T., clergyman, 76, April 30.
- CUBITT, GEN. SIR T. A., former Governor of Bermuda, 68, May 19.
- CUSHING, DR. H. W., surgeon, 70, October 7.
- DALY, J. B., Congressman (Penn.), 67, March 13.
- DANA, MISS E. ELLERY, author, 92, February 15.
- DARANYI, KOLOMAN, former Premier of Hungary, 53, November 1.
- DASHIELL, BRIGADIER GENERAL W. R., 76, March 16.
- DEAN, BRIGADIER GENERAL J. T., 84, June 15.
- DECESPEDES, C. M., former President of Cuba, 67, March 28.
- D'ERLANGER, E. B., BARON, promoter (Rhodesia), 73, July 24.
- DENBIGH, EARL OF, Catholic leader, 80, November 25.
- DE SAINTE CROIX, EUGENIE, French feminist, 84, March 22.
- DETERDING, SIR HENRI, oil producer, 72, February 4.
- DMOWSKI, ROMAN, Polish nationalist leader, 74, January 2.
- DOHERTY, HENRY L., oil industrialist, 69, December 26.
- DOLCI, ANGELO MARIO, R.C. Cardinal, 72, September 14.
- DONNELLY, CHARLES, railroad president, 69, September 4.
- DORIVAL, GEORGES, French actor, 78, July 16.
- DOUGLAS, VICE ADMIRAL SIR PERCY, 63, November 4.
- DRAKE, T. C., Chicago hotel owner, 74, March 2.
- DUMONT, CHARLES, French statesman, 72, April 22.
- DUNN, C. J., Maine jurist, 67, November 10.
- DUNN, REAR ADMIRAL H. O., 81, February 13.
- DUVEEN, LORD, art dealer, 69, May 25.
- DYSON, SIR FRANK, British astronomer, 71, May 25.
- EARLE, REAR ADMIRAL R. H., 64, February 13.
- EDDY, SPENCER, former U.S. Minister to Argentina, 66, October 7.
- EDGREN, R. W., cartoonist, 65, September 9.
- ELLIOTT, R. G., official executioner (N.Y. and other states), 65, October 10.
- ELLIS, HAVELOCK, sex psychologist, 80, July 8.
- ENNA, AUGUST, Danish composer, 80, August 3.
- EVANS, GENERAL W. Y., 91, October 23.
- EVARTS, A. W., lawyer, 90, May 30.
- FAHNESTOCK, HARRIS, financier, 69, October 11.
- FAIRBANKS, DOUGLAS, SR., motion picture actor and producer, 56, December 12.
- FAIRBANKS, F. P., painter, 64, August 8.
- FAIRHAVEN, LADY, donor of Runnymede to England, March 18.
- FARRAND, DR. LIVINGSTON, President Emeritus of Cornell University, 72, November 8.
- FAWCETT, GEORGE D., film actor, 77, June 6.
- FISK, PLINY, banker, 78, March 30.
- FITZGERALD, F. D., Governor of Michigan, 54, March 16.
- FLAVELLE, SIR J. W., Canadian banker, 81, March 7.
- FORD, FORD MADDOX, author, 66, June 26.
- FORD, HELEN, actress, 55, April 29.
- FOSS, E. N., former Governor of Massachusetts, 80, September 13.
- FRANCE, DR. J. I., U.S. Senator (Md.), 65, January 26.
- FRANKLIN, P. A. S., steamship owner, 68, August 14.

# NECROLOGY FOR 1939

- FREEMAN, RICHARD, actor, 65, May 2.  
 FREIL, R. A., cartoonist, 45, May 24.  
 FRENCH, LILLIE H., author, 85, June 3.  
 FREUD, DR. SIGMUND, 83, September 23.  
 FRIESEKE, F. C., painter, 65, August 27.  
 FRISCH, VICTOR, sculptor, 63, October 10.  
 FROHMAN, MRS. GUSTAVE, actress, July 4.  
 FULDA, LUDVIG, German playwright, 77, March 30.  
 FUTRALL, J. C., President of the University of Arkansas, 66, September 12.  
 GAMBOA, FEDERICO, Mexican novelist, 74, August 15.  
 GARDNER, G. P., financier, 83, June 6.  
 GARVIE, EDWARD, actor, 73, February 17.  
 GATES, REV. M. H., Dean of Cathedral of St. John the Divine, 73, November 27.  
 GAUL, GEORGE, actor, 54, October 6.  
 GEIGER, F. A., former Federal jurist, 71, July 31.  
 GHAZI IBN FEISAL, King of Iraq, 27, April 4.  
 GHERARDI, REAR ADMIRAL W. R., 63, July 25.  
 GHUZNAVI, SIR ABDEL KERINS, Bengal Moslem leader, 76, July 24.  
 GIBBONS, FLOYD, war correspondent, 52, September 24.  
 GIBSON, REV. J. K., G.A.R. chaplain-in-chief, 93, April 9.  
 GILBERT, N. W., jurist, 77, July 5.  
 GILBERT, P. B., diplomat, 55, February 24.  
 GILBERT, RALPH, former Congressman (Ky.), 57, July 30.  
 GILLINGWATER, CLAUDE, character actor, 69, November 1.  
 GILMAN, LAWRENCE, music critic, 61, September 8.  
 GIMBEL, DANIEL, merchant, 75, September 8.  
 GIRARDOT, ETIENNE, actor, 83, November 10.  
 GOODNOW, F. J., educator, 80, November 14.  
 GORDON, SIR C. B., Canadian industrialist, 71, July 30.  
 GOYA, GEORGE, secretary of the French Academy, 70, October 25.  
 GRAHAM, GEORGE, actor, 64, November 16.  
 GRANVILLE, EARL, British diplomat, 67, July 21.  
 GRAY, C. R., railroad executive, 71, May 9.  
 GREENE, COL. F. S., former N.Y. State Public Works Commissioner, 69, March 26.  
 GREET, CLARE, actress, 67, February 14.  
 GREY, ZANE, novelist, 64, October 23.  
 GRINNELL, PROF. JOSEPH, zoologist, 62, May 29.  
 GRISWOLD, H. W., Congressman (Wis.), 53, July 4.  
 GROENER, GEN. WILHELM, German soldier, 71, May 4.  
 GUGGENHEIM, G. D., copper refiner, 32, November 9.  
 GULICK, MAJOR GENERAL J. W., 64, August 18.  
 GUTHRIE, HUGH, Canadian statesman, 73, November 3.  
 HAAB, ROBERT, former President of Switzerland, 74, October 15.  
 HALLIBURTON, RICHARD, author, 39, March 23.  
 HALLOWELL, ROBERT, publisher and illustrator, 52, January 26.  
 HAMADA, KUNIMATSU, Japanese official, 78, September 7.  
 HAMILTON, G. G., actor, 55, January 17.  
 HARDING, FRANK, song writer, 75, July 16.  
 HARE, ERNEST, actor, 55, March 10.  
 HARKAVY, ALEXANDER, author, 76, November 27.  
 HATTON, MRS. FREDERICK (Fanny Locke), playwright, 69, November 27.  
 HAYWARD, A. E., cartoonist, 54, July 25.  
 HEALD, W. H., former Congressman (Del.), 75, June 3.  
 HELLER, EDMUND, naturalist and explorer, 64, July 18.  
 HENDERSON, VICE ADMIRAL SIR REGINALD, 57, May 2.  
 HILLQUIST, JACOB, lawyer, Socialist, 70, February 25.  
 HOFER, LIEUT. GENERAL KARL, German soldier, 76, May 12.  
 HOLLANDER, T. C., yachtsman, 88, October 12.  
 HOUTART, BARON M. J., Belgian banker and statesman, 73, February 1.  
 HOWARD, SIDNEY C., playwright and screen writer, 48, August 23.

# NECROLOGY FOR 1939

- HOWARD OF PENRITH, LORD, former British Ambassador to U.S., 75, August 1.
- HOYT, S. E., sports leader, 64, October 9.
- HUBBELL, C. B., lawyer and educator, 86, July 24.
- HUELGERTH, LUDWIG, Austrian Field Marshal, 64, August 15.
- HULL, PROF. W. I., Quaker historian, 70, November 14.
- JACKSON, W. P., former U.S. Senator (Md.), 71, March 7.
- JASPAR, HENRI, former Premier of Belgium, 68, February 15.
- JENNINGS, ANNIE B., philanthropist, 83, July 27.
- JOHNSON, F. T., painter, 64, January 1.
- JOHNSON, R. C., Congressman (S.D.), 56, August 2.
- JUCH, EMMA, opera singer, 78, March 6.
- KALICH, BERTHA, actress, 64, April 18.
- KELLY, WALTER C., actor, 65, January 6.
- KENNEDY, F. W., British Admiral, 76, July 11.
- KENNEY, W. P., railroad president, 69, January 24.
- KIDDER, KATHRYN, actress, 71, September 7.
- KIRKLAND, J. H., educator, 79, August 5.
- KOENIG, MORRIS, jurist, 56, December 1.
- KORFANTY, ADALBERT, former Premier of Poland, 66, August 16.
- KUNDT, HANS, German military leader in Bolivia, 70, August 28.
- LACOUR, LEOPOLD, French dramatist, 83, April 29.
- LADD, MRS. WATTS, sculptress, 60, June 3.
- LAEMMLE, CARL, SR., motion picture producer, 72, September 24.
- LAMBERT, DR. ALEXANDER, narcotics specialist, 77, May 9.
- LATIMER, REAR ADMIRAL J. E., 70, June 4.
- LAURENT, CHARLES, French banker and diplomat, 83, February 18.
- LAVELLE, REV. M. J., rector of St. Patrick's Cathedral, N.Y., 83, October 17.
- LAWSON, ERNEST, painter, 68, December 18.
- LAY, J. G., diplomat, 67, August 28.
- LENIN, MME., widow of Soviet Russia leader, 70, February 27.
- LEWIS, J. HAMILTON, U.S. Senator (Ill.), 72, April 9.
- LINDEMANN, FERDINAND VON, German mathematician, 86, March 7.
- LINDGRON, PROF. WALDEMAR, geologist, 79, November 3.
- LINDSAY, SIR C. W., Canadian manufacturer, 83, November 7.
- LINTON, EDWIN, biologist, 84, June 4.
- LOGAN, M. M., U.S. Senator (Ky.), 65, October 3.
- LORD, BERT, Congressman (N.Y.), 69, May 24.
- LOUISE, PRINCESS, Duchess of Argyle, 91, December 3.
- LYONS, J. A., Prime Minister of Australia, 59, April 7.
- MACCARTHY, T. C. P., Canadian sculptor, 93, October 24.
- MACHADO, GERARDO, former President of Cuba, 67, March 29.
- MACKAY, CLARENCE H., financier, 64, November 12.
- MACKAY, W. A., painter, 63, July 26.
- MAHSIANG-PAI, former Premier of China, 100, November 4.
- MANNHEIMER, FRITZ, Dutch banker, 49, August 9.
- MANTELL, MRS. ROBERT (Marie Sheldon), actress, 83, April 11.
- MARIANI, DOMENICO, Cardinal, 76, April 23.
- MARSHALL, LIEUT. GEN. SIR WILLIAM, British soldier, 73, May 29.
- MARTIN, EDWARD S., editor and author, 83, June 13.
- MARTIN, MRS. HELEN R., author, 70, June 29.
- MASON, CAROLINE ATWATER, author, 85, May 2.
- MASON, WALT, humorist, poet, 77, June 22.
- MAX, ADOLPHE, Burgomaster of Brussels, 69, November 6.
- MAYO, DR. C. H., surgeon, 73, May 26.
- MAYO, DR. W. J., surgeon, 78, July 28.
- MCCAN, MAJOR GEN. W. D., 76, July 7.
- MCCUTCHEON, W. C., merchant, 66, February 16.
- MCMILLAN, T. S., Salvation Army leader, 50, September 29.
- MCREYNOLDS, S. D., Congressman (Tenn.), 67, July 11.
- MERCER, BERYL, actress, 56, July 28.



# NECROLOGY FOR 1939

- MERRICK, LEONARD, novelist, 75, August 7.
- MITCHELL, D. L., actor, 71, June 2.
- MOIR, JAMES, heavyweight boxer, 60, June 12.
- MONDELL, F. W., former Congressman, 78, August 6.
- MOORE, OWEN, film actor, 52, June 9.
- MOULAN, FRANK, actor and singer, 63, May 13.
- MOUQUIN, J. L., restaurateur, 84, March 20.
- MUNDELEIN, GEORGE, Cardinal, Archbishop of Chicago, 67, October 2.
- MUNDIN, HERBERT, actor, 40, March 4.
- NAISMITH, DR. J. A., originator of basketball, 78, November 28.
- NARVAEZ, AURELIO, President of Ecuador, 56, November 17.
- NORMAN, SIR HENRY, wireless financier, 80, June 4.
- OGILVIE, A. G., Prime Minister of Tasmania, 48, June 11.
- ORMONDE, FREDERIC, actor, 70, October 31.
- ORTEIG, RAYMOND, donor of Lindbergh Paris flight prize, 68, June 6.
- PADDOCK, REV. R. L., Protestant Episcopal Bishop, 69, May 17.
- PARK, DR. W. H., anti-toxin specialist, 76, April 6.
- PARMA, DUKE OF (Henri de Bourbon), 66, May 10.
- PATERNO, JOSEPH, builder, 58, June 13.
- PATTEN, T. G., former Postmaster of New York, 77, February 23.
- PINCHOT, MRS. MINTURN, birth control advocate, 67, May 16.
- PIUS XI, POPE (Achille Ratti), 81, February 10.
- PLATT, EDMUND, Congressman (N.Y.), 74, August 27.
- PORRO, GEN. CARLO, Italian soldier, 85, April 19.
- POWERS, T. E., cartoonist, 69, August 14.
- PRATT, H. I., banker, 62, May 21.
- PRITCHETT, PROF. H. S., educator, astronomer, 82, August 28.
- PULITZER, RALPH, newspaper publisher, 60, June 14.
- PURNELL, F. S., Congressman (Ind.), 57, October 21.
- RACKHAM, ARTHUR, illustrator, 72, September 6.
- RADAELLI, GIUSEPPI, opera singer, 52, January 30.
- RANK, DR. OTTO, psychologist, 55, October 31.
- RAO, GAEKWAR OF BARODA, 75, February 6.
- READ, OPIE, author, 86, November 2.
- RHEES, RUSH, educator, 78, January 5.
- RHINELANDER, REV. P. M., Protestant Episcopal Bishop, 70, September 21.
- RIANO, JUAN, former Spanish Ambassador to U.S., 74, November 18.
- RIESENFELD, HUGO, conductor, 60, September 10.
- ROGERS, PROF. J. H., economist, 52, August 13.
- ROSENTHAL, ALBERT, painter, 76, December 20.
- ROSSLYN, EARL OF, actor, sportsman, 70, August 10.
- ROUTLEDGE, SCORESBY, Australian explorer, 79, July 31.
- RUPPERT, JACOB, owner of Yankees baseball club, 71, January 13.
- SAEVERDA, JUAN B., former President of Bolivia, March 1.
- SAITO, HIROSI, former Japanese Ambassador to U.S., 52, February 26.
- SANFORD, JOHN, carpet manufacturer, 88, September 26.
- SARGENT, J. G., former U.S. Attorney General, 78, March 5.
- SAUVEUR, PROF. ALBERT, metallurgist, 75, January 26.
- SBARRETTI, DONATO, Cardinal, 82, April 1.
- SCHEIDEMANN, PHILIP, former Chancellor of German Republic, 74, November 29.
- SCHELLING, H. ERNEST, pianist, 63, December 8.
- SCHWAB, CHARLES M., steel magnate, 77, September 19.
- SELIGMAN, PROF. E. R. A., economist, 78, July 18.
- SERLY, LAJOS, Hungarian composer, 84, February 1.
- SHIH-CHANG, HSU, former President of China, 81, June 6.
- SLOAN, SAMUEL, banker, 75, November 26.
- SOUTHARD, H. D., actor, 58, April 27.
- SPENCER, LORILLARD, aviation financier, 55, June 9.
- SPINGARN, PROF. J. E., worker for colored people, 64, July 26.
- SQUIRE, BELLE, feminist, 69, April 17.
- STAUNTON, REAR ADMIRAL S. A., 88, January 11.

## NECROLOGY FOR 1939

- STEARNS, F. W., merchant, 82, March 6.  
 STEELE, CHARLES, banker, 82, August 5.  
 STEIWER, F. W., former U.S. Senator (Ore.), 55, February 3.  
 STOKES, F. A., publisher, 82, November 15.  
 SWANSON, C. A., Secretary of the Navy, 77, July 7.  
 TAYLOR, J. W., Congressman (Tenn.), 59, November 14.  
 TEMPLETON, FAY, actress, 74, October 3.  
 THOMASHEFSKY, BORIS, Yiddish actor and playwright, 71, July 9.  
 THORNDIKE, PROF. PAUL, surgeon, 76, May 28.  
 TOLLER, ERNST, German author, 46, May 22.  
 TRENT, WILLIAM P., Professor of English, Columbia University, 77, December 6.  
 VALDEMAR, PRINCE, son of Christian IX of Denmark, 80, January 14.  
 VON QUAST, GEN. FERDINAND, German soldier, 88, March 28.  
 WARE, HELEN, actress, 61, January 25.  
 WEADON, F. P., producer, 79, May 29.  
 WEEKES, J. A., lawyer, 82, May 4.
- WHISTLER, MARGARET, actress, August 23.  
 WHITE, T. G., painter, 61, February 17.  
 WHITNEY, MRS. R. L., jurist, 66, September 3.  
 WICKERSHAM, JAMES, Alaska pioneer, 82, October 24.  
 WILD, FRANK, explorer, 65, August 20.  
 WILLIAMS, MRS. G. A. R. (Lady Heath), aviatrix, 43, May 9.  
 WILSON, PROF. E. B., zoologist, 82, March 3.  
 WILSON, HARRY LEON, author, 72, June 28.  
 WILSON, S. D., Mayor of Philadelphia, 57, August 19.  
 WIMBORNE, VISCOUNT, public official, polo player, 66, June 14.  
 WOOD, HENRY WISE, newspress inventor, 73, April 9.  
 WRIGHT, J. BUTLER, U.S. Ambassador to Cuba, 62, December 4.  
 WRIGHT, W. H. (S. S. Van Dine), author, 51, April 11.  
 WUERTTENBERG, DUKE ALBERT VON, German Field Marshal, 73, October 29.  
 YEATS, W. B., Irish poet, 73, January 28.



# INDEX

**A.** A.A. Program, 20, 442

**Administrative Agencies,** *see*  
Federal Administrative  
Agencies

**Adult Education,** 968-974

**Aeronautics,** *see* Army, Avia-  
tion, Navy

**Aeronautics, Civil,** 147

**Aery, William Anthony,** 975

**Africa, Explorations,** 741  
Travel, 854

**Agriculture,** 439-446

A.A.A. Program, 442  
Chemical Use of Farm Waste  
Products, 760-761

Child Labor in, 614

Chronology, 144-145

Cotton Export Program,  
443-444

Economic Conditions, 362

Employment Conditions,  
610-611

European War, Effects of,  
439

Farm Income, 440-441

Farm Labor, 605-606

Federal Crop Insurance, 20,  
445-446

Food-Order Stamp Plan,  
442-443

Food Supplies for Home Con-  
sumption, Statistics,  
439-440

Legislation, 20

Supreme Court Decisions,  
135

Weather Conditions, 441-442

Wheat Marketing, 444-445

*See also* Cotton, Dairy Indus-  
try, Grain Crops

**Agriculture and Allied Indus-  
tries,** 439-471

**Alaska,** 202-205, 720

Aviation, 204

Education, 204-205

Finance, 203

Fisheries, 203

Foreign Trade, 202

Furs, 203

Health, 205

History and Description, 202

Minerals, 203-204

Railroad, 204

Reindeer, 203

**Albania, Invasion of,** 74

**Allen, H. K.,** 251

**Ambassadors, Accredited to**  
U. S., List of, 100-101

U. S. List of, 100-101

**American Bankers' Associa-  
tion,** 378

**American Political History,** 1-72  
**Anthropology and Ethnology,**

826-832

Archaeology, 828-831

—Europe, 830

—Mexico, Central and South  
America, 829-830

—Middle and Far East, 831

—Near East, 830-831

—U. S., 828-829

Ethnology, 827-828

Necrology, 832

Physical Anthropology, 831-  
832

Social Anthropology, 826-  
827

**Appeasement Policy,** Anglo-  
French, 74

**Arabia,** *see* Near East

**Archaeology,** 897-901

Antioch, 898

Egypt, 899

Greece, 886-887, 897-898

Guatemala, 899

Iran (Persia), 898-899

Italy, 899

Mexico, 899

Necrology, 901

Palestine, 898

United States, 900-901

*See also* Anthropology

**Architecture,** 914-917

American Institute of Archi-  
tects Convention, 915

Fairs, New York and San  
Francisco, 915

Housing, 916-917

Labor Factors in Building  
Industry, 915-916

Mellon Gallery and Jefferson  
Memorial, 915

Smithsonian Gallery of Art,  
914-915

**Army, U. S.,** 311-327

Accomplishments of Per-  
sonnel

—Adjutant General's De-  
partment, 320

—Cavalry, 315

—Chaplains, Corps of, 320

—Chemical Warfare Service,  
316

—Civilian Conservation  
Corps, 320-321

—Coast Artillery, 316

—Engineers, Corps of, 315

—Field Artillery, 314

—Finance Department, 318-  
319

—Infantry, 315-316

—Inspector General's De-  
partment, 319

—Insular Affairs, Bureau of,  
321

—Judge Advocate General's  
Department, 319-320

—National Guard, 322

—Ordnance Department,  
317-318

—Puerto Rican Department,  
321

—Quartermaster Corps, 318

—Signal Corps, 315

—Surgeon General's Office,  
318

Development, 311-312

General Objectives, 311

Medals and Decorations,  
325-327

Military Education, 322-  
326

—Citizens' Military Training  
Camps, 325

—Civilian Educational Insti-  
tutions, 325

—Extension Courses, 326

—Foreign Schools, 325-326

—Reserve Officers' Training  
Corps, 325

—U. S. Military Academy,  
322-323

Organization, 312-313

Panama Canal, 321-322

Recruiting, 314

Strength, 313-326

—By Corps Areas, 326

—National Guard, 313

—Organized Reserves, 313

—Regular Army, 313

Training, 313-314

—National Guard, 314

—Organized Reserves, 314

—Regular Army, 313

**Arts, The,** 897-940

Archaeology, 897-901

Architecture, 914-917

Motion Pictures, 932-938

Music and the Opera, 917-  
925

Painting, 901-909

Sculpture, 910-914

Theatre, The, 924-932

**Asia, Explorations,** 740-741

Travel, 853-854

**Astronomy,** 667-674

Comets, 669

Exterior Galaxies, 674

Intestellar Matter, 673-674

McDonald Observatory Tele-  
scope, 667

Solar System, 668-669

Stars, 669-673

—General, 669-671

—Specific, 671-673



# INDEX

Telescope Mirrors, 667-668  
**Athenia**, Sinking of, 80  
**Australasia**, 741  
**Austria**, and the Catholic Church, 643-644  
*See also* Chronology of International Affairs, 110-119  
**Automobiles**, Manufacturing Conditions, 496-497  
**Automotive Engineering**, 704-710  
 Bodies, 710  
 Brakes, 708  
 Clutches, 706  
 Cooling Systems, 705  
 Crankshafts and Ventilation, 705  
 Cylinders and Valves, 705  
 Design, New Features in, 704  
 Engines, 704-705  
 Equipment, 709-710  
 Exhaust Systems, 705-706  
 Frames, 709  
 Front Suspensions and Stabilizers, 708-709  
 Fuel Systems, 705  
 Grilles and Sheet Metal, 710  
 Lighting and Electrical Systems, 706  
 Lubrication, 705  
 Pistons and Rings, 705  
 Propeller Shafts, 708  
 Rear Axles, 708  
 Rear Suspensions and Torque Members, 708  
 Steering Gears and Control, 709  
 Transmission, 706-708  
 Wheels, Rims, and Tires, 708  
**Aviation**, Commercial, 539-547  
 Aircraft Production, 540, 545-546  
 Airline Profits, 540  
 Airways, 543-544  
 —Airports, 544  
 —Domestic, 543  
 —Instrument Landing, 543  
 —Transoceanic Aids, 543, 544  
 —Ultra High Frequency Range, 544  
 Manufacturing Conditions in, 497-498  
 Private Flying, 545  
 —Pilots, 545  
 —Safety, 545  
 —Student Training, 545  
 Radio, 699-700  
 Research, 546-547  
 —Aerodynamics, 546  
 —Engines, 547  
 —Plastics, 547  
 Safety Record, 539  
 Scheduled Air Transportation, 540-543  
 —Express, 539, 542  
 —Mail, 540-541  
 —Mileage, 540  
 —Passengers, 542  
 —Safety, 543  
 —Statistics on, 541-542  
 Traffic Increase, 514, 539  
 Transatlantic Service, 540, 544  
 Weather Bureau Service, 736  
*See also* Army, Navy  
**Aviation**, Military, 316-317  
**Aviation**, Naval, 345

**BAILEY**, Catherine Smith, 917  
**Bain**, Frank, 263, 266  
**Bain**, Peter, 349, 532  
**Baker Island**, *see* Equatorial Islands, American  
**Banking Affairs**, 374-378  
 American Bankers' Association, 378  
 Assets and Liabilities of all Banks, 376-377  
 Bank Examinations, 375  
 Banking and Credit Facilities, 375-376  
 Chronology, 145  
 Classifications of Banks, 374  
 Savings Deposits, 378  
 Suspensions, 374  
 Taxation, 376  
 War, Effects, 374  
*See also* Foreign Exchange, Security and Money Markets  
**Bates**, James L., 711  
**Bauer**, John A., 294  
**Becker**, Joseph A., 446  
**Behre**, Charles H., Jr., 723  
**Belles Lettres**, *see* Criticism and Belles Lettres  
**Bennett**, James V., 574  
**Benson**, George C. S. and Mabel Gibberd, 17  
**Berry**, Rose V. S., 910  
**Berryman**, Florence Seville, 901  
**Biography**, 847-851  
 Artists, 849-851  
 Collective Biographies, 847  
 Figures of Varied Missions, 850-851  
 Foreign Subjects, 851  
 Literary Figures, 849  
 Men of Action, 848  
 Men of Business, 849  
 Men of Medicine, 850  
 Men in Public Life, 848  
 Miscellaneous, 851  
 Presidents, 847  
**Biology**, 765-788  
**Bissell**, Thomas A., 704  
**Botany**, 776-782  
 Absorption and Nutrition, 777  
 Ecology, 779-780  
 Enzyme Studies, 778  
 Genetics and Cytology, 779  
 Germination and Dormancy, 777  
 Metabolism, 777-778  
 Morphology and Anatomy, 780  
 Osmosis and Permeability, 777  
 Paleobotany, 780-781  
 Photosynthesis, 777  
 Physiological Research in Growth Problems, 776-777  
 Other Physiological Studies, 778-779  
 Respiration Investigations, 778  
 Taxonomy, 781-782  
**Botany**, Economic, 782-787  
 Crop Plants, New Uses, 783  
 Disease Resistance in Vegetables, 785  
 Drought Resistance in Sweet Corn, 785  
 Ecology in Agriculture, 782

Edible Soybeans, 784  
 Forest Trees, Breeding of, 785-786  
 Grass Culture and Range Improvement, 782  
 Indian Corn, Origin of, 784  
 Plant Breeding and Chemistry, 786-787  
 Plants Used by Eskimo for Food, 783-784  
**Bowden**, Witt, 589  
**Brazilian Agreements**, 76  
**Bricker**, John W., 17  
**Bridges**, 681-682  
 Anacostia River, 681  
 Bronx-Whitestone, 681  
 Building Activity, 681-682  
 Galveston Causeway, 681  
 Lake Washington, 681  
 Lancaster Street, 681  
 Main Avenue, Cleveland, 681  
 Meeker Avenue, 681  
 Pit River, 682  
 Tacoma Narrows, 682  
**Browder**, Earl, Indictment of, 136  
**Brown**, Donald F., 897  
**Brown**, Everett S., 1  
**Brown**, Robert M., 738  
**Buck**, Paul H., 843  
**Bureau of Employment Security**, 33  
**Bush**, Ada Lillian, 500  
**Business**, *see* Economic and Business Conditions  
**Business and Finance**, 361-438  
 Chronology, 146-147, 425-436  
**Byles**, Axtell J., 484  
**Byrd Antarctic Expedition**, 729  
**CANADA**, and the Catholic Church, 644  
 Trade-Agreements with U. S., 401, 516  
 War-Time Trade Control, 406-407  
*See also* Chronology of Business and Finance, 425-436, Chronology of International Affairs, 110-119  
**Canton Island**, *see* Equatorial Islands, American, 223-224  
**Carroll**, John Patrick, 63  
**Casualty and Miscellaneous Insurance**, 421-425  
 Automobile, 422-423  
 Burglary, Theft and Robbery, 424-425  
 Experience Exhibit, 421-422  
 Investments, 425  
 Plate Glass, 425  
 Public Liability and Property Damage, 424  
 Suretyship, 425  
 Workmen's Compensation, 423, 424  
**Catholic Church**, The Roman, 537-648  
 Africa, 648  
 Asia, 647-648  
 Austria, 643-644  
 Canada, 644  
 Catholic Press, 640  
 Czecho-Slovakia, 644  
 Education, 640  
 Episcopal Changes, 639

# INDEX

- European Countries, Miscellaneous, 646-647  
 France, 645-646  
 Germany, 643  
 Indecent Literature, 641  
 Italy, 642-643  
 Labor, 640-641  
 Latin America, 645  
 Mexico, 644  
 Mission Aid, 639  
 Mission Land Bishops, 639  
 National Catholic Welfare Conference, 637-638  
 New Archdiocese at Washington, 638  
 Pax Romana, 639-640  
 Pius XI, Death of, 637  
 Poland, 643  
 Pope, The, 642  
 Population of U. S., Catholic, 637  
 Priesthood, 967  
 Russia, 647  
 Science, 641-642  
 Spain, 645  
**Chalmers, Henry**, 399  
**Chamberlain, Neville**, 4, 7, 15  
**Chapple, Eliot D.**, 826  
**Chemistry and Physics**, 747-764  
**Chemistry, Organic and Inorganic**, 755-761  
 Aluminum, Volatile Compound of, 755  
 Hydrogen Fluoride, Molecular Structure, 755-756  
 Medicinals and Industrial Chemicals, Sources of, 760  
 Organic Reactions and Reagents, 756-757  
 Phthalocyanine Dyes, 759-760  
 Proteins, Structure of, 759  
 Redistribution Reaction, 756  
 Rubber Chemistry, Progress in, 759  
 Salt and Sulfur Trioxide, Reaction of, 755  
 Sex Hormones, Synthesis of, 758  
 Starch Molecules, Size of, 758-759  
 Sulfamic Acid, Industrial Uses of, 755  
 Utilization of Farm Waste Products, 760-761  
 Vitamin B Complex, 757  
 Vitamin E Developments, 757  
 Vitamin K, 757-758  
**Chemistry, Physical**, 747-750  
 Chemical Bond, 749-750  
 Hydrocarbons, 748  
 Isotope Separation, 747-748  
 Proteins, 749  
**Chester, Allan G.**, 860  
**Chew, Arthur, P.**, 439  
**Child Labor**, 613-616  
 Agriculture, 614  
 Child Labor Amendment, 615-616  
 Fair Labor Standards Act, 613  
 Intrastate Trades and Occupations, 615  
 Progress in State Legislation, 615  
 Street Trades, 615  
**China**, *see* Orient  
**Chronology of Business and Finance**, 425-436  
**Chronology of International Affairs**, 110-119  
 U. S. Foreign Relations, 113-119  
**Chronology of National Government after the Adjournment of Congress**, 144-159  
 Agriculture, 144-145  
 Banking, 145  
 Budgetry, 145-146  
 Business, 146-147  
 Civil Aeronautics, 147  
 Civil Service, 147  
 Communications, 147  
 Congress, 147  
 Dies Inquiry, 148  
 Government Reorganization, 149  
 Housing, 149  
 Inland Waterways, 149  
 Judiciary, 149-150  
 Labor, 150-151  
 Maritime, 151-152  
 Monopoly, 152-153  
 National Defense, 153-154  
 Power, 154  
 President, The, 154-157  
 Relief, 157  
 Securities, 157  
 Social Security, 158  
 Tariff, 158  
 Taxation, 159  
 Wages and Hours, 159  
**Chronology of Political Events**, 1939, 70  
**Chronology of Public Affairs**, 1939, 69-70  
**Churches**, *see* Catholic Church, Eastern Churches, Interdenominational Activities, Judaism, Protestant Denominational Activities  
**City of Flint Case**, 82, 539  
**City Politics**, 189-192  
**Civil Service**, 21-22, 138-144, 147  
 Chronology, 147  
 Federal Civil Service, 138-144, 147  
 —Civil Service in the States, 141-143  
 —Classification of Positions Formerly Exempt, 140-141  
 —Executive Civil Service, Growth of, 141  
 —Government Reorganization, 139-140  
 —Judicial Employees, 139  
 —Prohibition of Political Activities, 138-139  
 —Quality of Eligibles, 143-144  
 —Social Security Administration, 140  
 State Legislation, 164-165  
**Civilian Conservation Corps**, 22, 220, 321, 333-334, 566, 985  
**Clem, Orlie M.**, 948  
**Clement, Lewis M.**, 697  
**Climatology**, 735-738  
**Coal and Coke**, 475-479  
 Mechanical Progress in Mining, 477-479  
 —Drying, 478  
 —Haulage, 477-478  
 —Loading, 477  
 —Mechanical Cleaning, 477  
 —Mine Roof Supports, 478  
 —Processing Plants, 478  
 —Stripping, 478  
 —Tractors and Shuttle Cars, 477  
 Mining Industry, Employment in, 608-609  
 Mining Safety, 479  
 Prices, 475-476  
 Production Conditions, 475  
 Research, 479  
 Sources, 724  
 Wage and Hour Contracts, 476-477  
**College Education**, 955-968  
**Columbia**, *see* District of Commerce, *see* Internal Commerce, Foreign Trade  
**Cone, Edwin F.**, 473  
**Congress**  
 Agriculture  
 —A. A. A. Amendments, 20  
 —Barter, 20  
 —Crop Insurance, 20  
 —Crop Surpluses, 21  
 —Loans to Farmers, 21  
 —Payments, 21  
 —Pest Control, 20  
 —Soil Conservation, 21  
 Appointments, 21  
 Appropriations, 19-20  
 Bankruptcy, 21  
 Banks, 21  
 Business, 21  
 —Copyrights, 21  
 —Hot Oil, 21  
 —Securities Exchange Commission, 21  
 Chronology, 147  
 Civil Service, 21-22  
 Civilian Conservation Corps, 22  
 Courts, 22  
 Defense, 22  
 Fishing, 23  
 Flood Control, 23  
 Government Finance, 23-24  
 Governmental Administration and Personnel, 23  
 —Court Administration, 23  
 —Retirement of Judges, 23  
 —Tax Administration, 23  
 —Under Secretary of Commerce, 23  
 Government Reorganization, 24-25  
 Housing, 25  
 Interstate Compacts, 26  
 Labor, 26  
 Legislative Procedure, 19  
 Members of, 128-132  
 —House of Representatives, 129-132  
 —Senate, 128-129  
 Neutrality, 26  
 Pan Americanism, 25  
 Philippine Independence, 26  
 President, and the, 17-19  
 Revenue, 27  
 Revenue Act of 1939, 27-28  
 Roosevelt Library, 28

# INDEX

Social Security, 28-30  
 Stabilization Fund, 24  
 Taxation of Federal Salaries, 27  
 Tennessee Valley Authority, 30  
 Veterans, 30-31  
 Works Progress Administration, 31  
**Congress**, Members of, 128-132  
   House of Representatives, 129-132  
   Senate, 128-129  
**Congress**, Year in, The, 17-31  
**Construction**, *see* Engineering  
**Contraband Search**, 403, 534-535  
**Copper**, 481-483  
**Cotton**, 446-448  
   Acreage and Production, 447-448  
   Export Program, 443-444  
   Production, 446-447  
   U. S. Tariff Commission Investigation, 507  
   Value of Production, 448  
   Yields, 447-448  
**County and Rural Government**, 177-182  
   Centralization Trends, 179-180  
   County Finance, 180  
   County Government Changes in States, 177-179  
   Expansion of County Services, 181  
   General, 177  
   Planning and Zoning, 180-181  
   Research and Reform, 181-182  
**Cramer**, Lawrence W., 218  
**Creager**, John O., 955  
**Crime Control and Penal Institutions**, 574-578  
   American Prison Association's Conference, 578  
   Federal Prison System, Expansion of, 577  
   National Parole Conference, 575-576  
   Personnel Training and Improvement, 577-578  
   Prisons and Reformatories, Regional Survey of, 576-577  
   Survey of Release Procedures, 575  
**Criticism and Belles Lettres**, 855-860  
   American Scene, 859-860  
   Correspondence, 857  
   Critical Theory, 855-856  
   Didactic, 859  
   Essay, 858  
   Humorous, 858-859  
   Special Studies:  
     American, 857  
     Contemporary, 857-858  
     English, 856-857  
     Foreign, 858  
   Words, Printing, Books, 860  
**Crop Insurance**, 445-446  
**Czecho-Slovakia**, Annexation of by Germany, 2, 74  
   and the Catholic Church, 644  
   U. S. Protest at Nazi Seizure, 76-77

**DAIRY Industry**, 454-456  
   Cow Numbers and Milk Production, 454  
   Dairy Products, Consumption of, 455  
   Dairy Products, Manufactured, 454  
   Government Programs, 455-456  
   Income and Production Outlook, 454  
   Storage Stocks, 454-456  
**Daladier**, Premier, 74  
**Dams**, Conchas, 677  
   Denison, 676  
   Fort Peck, 678  
   Fort Supply, 678  
   Friant, 677  
   Grand Coulee, 676-677  
   Great Salt Plains, 678  
   Green Mountain, 677  
   Hansen, 679  
   Marshall Ford, 677  
   Miscellaneous, 680  
   Navigation, 679  
   New England Flood Control, 679  
   Pittsburgh Flood Control, 678  
   Possum Kingdom, 680  
   Ross, 680  
   Santee-Cooper, 680  
   Sardis, 677-678  
   Shasta, 677  
   Susquehanna River Flood Control, 679  
   Tennessee Valley Authority, 680  
   *See also* Reclamation  
**Davis**, Nathaniel P., 99  
**Debatin**, Frank M., 968  
**Defense and Armament**, 311-360  
   Desmond-Moffet Bill, 165  
   Dewey, Thomas E., 16  
   Dies, Martin, 13-14  
   Dies Inquiry, 148-149  
   Dinwiddie, Courtenay, 613  
**Diseases of Plants**, 456-458  
   Climatic Influences, 456-458  
   Fruit Diseases, 457  
   Phloem Necrosis of Elms, 457  
   Potato Infection, 456-457  
   Red Stele, 456  
   Tree Infections, 458  
**District of Columbia**, 226-229  
   Fugitives, Apprehension of, 227  
   Government Reorganization, 229  
   Health, 227  
   Other Legislation, 228  
   Real Estate, Sale of, 227  
   Schools, 227-228  
   Street Lighting, 227  
   Taxation, 226-227  
**Doland**, J. J., 676  
**Dominican Republic**, 653  
**Dorr**, Harold M., 9  
**Douglass**, H. Paul, 618  
**Dowling**, Noel T., 38  
**Dunn**, Halbert L., 803

## EARTHQUAKES, 720-722

Locations and Observations, 721-722

—Foreign Areas, 720  
 —U. S., Alaska and Hawaii, 720  
 Related Measurements, 722  
 Seismological Stations, 720-721  
**Eastern Churches**, The, 648-651  
   Armenian Church, 650-651  
   Hellenic Orthodox Church, 648-649  
   Lesser Eastern Churches, 651  
   Orthodox Churches Abroad, 649-650  
   Other Orthodox Churches, 649  
   Relations with Other Churches, 650  
   Russian Orthodox Church, 649  
   War in Europe, Effects of, 651  
**Economic and Business Conditions**, 361-368  
   Agriculture, 362  
   Automobile Sales, 364-365  
   Bank Clearings, 363  
   Building Construction, 365  
   Business Improvement, 361-362  
   Capital Flotation, New, 362-363  
   Commercial Failures, 365-366  
   Corporate Financing, 363  
   Exports and Imports, 364  
   General Business Indices, 366-368  
   —Bureau of Labor Price Index for Main Groups of Commodities, 368  
   —Commodity Index Numbers and Labor Conditions, 367  
   —Factory Employment and Payrolls, 368  
   —Index Numbers of Commodity Prices, 367  
   Industrial and Railroad Dividends, 366  
   Industrial Production, 366  
   Iron and Steel Operations, 365  
   Manufacturing and Mining Industries, 362  
   Railroad Industry, 363-364  
**Economic Geology**, 723, 725  
   Coal, 724  
   Industrial Minerals, 725  
   Ore Deposits, 724-725  
   Petroleum, 723, 724  
   Technology, Advances in, 725  
**Edson**, H. A., 456  
**Education**, 941-993  
**Education**, Adult, 968-974  
   American Association for Adult Education, Objectives of, 969-970  
   Consumer Education, 974  
   Educational Opportunities, Development of, 970  
   Forum Program of U. S. Office of Education, 971-972  
   Guidance, 974  
   Library, 973  
   Libraries, 987



# INDEX

- Negro, 983
- Radio, 972-973
- Readability Laboratory, 970
- Regents' Survey in New York, 968-969
- Works Progress Administration, 971
- Education, Catholic, 640**
- Education, Collegiate, 955-968**
- College Teacher, Professional Training of, 959-960
- Improving Instruction in College, 958-959
- Junior College, 956-957
- Probable Effect on Higher Education, 957-958
- Post-High School Student, 955
- Proposed Solutions, 955-956
- Selection and Direction of Students, 958
- Tendencies in, 955
- Education, Elementary, 941-947**
- Curriculum and Child Development, 945-946
- Education for Democracy, 942-945
- Enrollment, 941
- Fundamentals, Question of, 941-942
- Learning, Conditions for, 942
- Pictorial Reports, 942
- Publications, 947
- School Survey, 942
- Teacher Training, 946-947
- Education, Health, 802, 983**
- Education, Military, see Army Education, Naval, see Navy Education, Negro, 975-985**
- Adult Education, 983
- Civilian Conservation Corps, 985
- College Enrollment, 981-982
- Elementary, 978
- Extension Work, 982
- Federal Survey, 984
- Financial Support, 979
- General Education Board, Appropriation, 977
- Graduate Education, 979-980
- Health Education, 983
- Higher Education, 557-558, 979
- Fight for in South, 975-976
- Howard University Expansion, 980-981
- Inequalities, 975
- Land-Grant Colleges, 981
- Law Education, 982-983
- National Youth Administration, 984-985
- Publications, 985
- Rural Education, 977
- Secondary, 978-979
- Teachers' Salaries, Equalization of, 976-977
- Vocational Education, 982
- Education, Professional, 961-968**
- Business Education, 961
- College Level Courses, 961
- Graduate Level Courses, 961
- Trends, 961
- Engineering Education, 961-962
- Professional Development, 961-962
- Post-Graduate Training, 962
- Legal Education, 962-963
- Educational Requirements, 962
- Evening Schools, 963
- Negro, 982-983
- Post-Admission Education, 962
- Training, 962
- Library Training, 987-988
- Medical, 963-964
- Association of Collegiate Schools of Nursing, 964
- Enrollment and Graduates, 963
- Internship, 963
- Licensure, 963
- Nursing, 963-964
- Preliminary Education, 963
- Public Health, 964
- Public Administration, 197-198
- Graduate Training, 965
- In-Service Training for Public Employees, 965
- Institutions for Higher Education, 964-965
- Internship or Apprenticeship, 965
- Social Work, 967-968
- Schools, 967-968
- Trends, 967
- Teacher Education, 967-968
- American Association of Teachers Colleges, 966-967
- Commission on Teacher Education, 966
- Theological Education, 967
- American Association of Theological Schools, 967
- Enrollment in Accredited Schools, 967
- Priesthood, 967
- Trends, 967
- Education, Secondary, 948-955**
- Administrative Standards, 950
- Administrative Unit, Size of, 949
- Community-Centered School, 949
- Democracy, 952-953
- Education on the Defensive, 953-955
- Federal Aid, 949-950
- Instructional Aids, New, 949
- Interest in All Youths, 948
- Objectives, 948
- Professional Meetings, 947
- Progressive Education, 948-949
- Propaganda, 950-951
- Relation of Curriculum to Extra-Curriculum, 949
- Teacher Tenure, 950
- Edwards, Gurden, 374**
- Egypt, 96, 891**
- Archaeology, 899
- See Near East
- Elections of 1939, 52-55**
- Amendments in Ohio, 52-55
- General Results, 52
- "Ham and Eggs" Amendment, 52
- State Elections, 53-55
- Electoral Legislation, 174-176**
- Corrupt Practices, 176
- Elections, Conduct of, 175
- General, 174
- Initiative and Referendum, 176
- Nominations, 174-175
- Party Organization, 175
- Registration, 176
- Special and Local Acts, 176
- Electric Utilities, Manufacturing Conditions in, 494**
- Electrical Engineering, 690-697**
- Electrodeposition, 696
- Electronics, 695
- Illumination, 694
- Location of Buried Objects, 696
- Machinery, 690-692
- Medicine, Electricity in, 694
- Meters and Instruments, 693-694
- Oil Prospecting, Electricity in, 696
- Research, 697
- Telephony, 695-696
- Transmission and Distribution, 692-693
- Transportation, 693
- Electricity, see Electrical Engineering, Terrestrial Magnetism**
- Electrochemistry, 761-763**
- Batteries and Corrosion, 762
- Electrochemical and Metallurgical Industries, Growth in, 761
- Electrodeposition, 761-762
- Chromium Plating, 762
- Electrofinishing Process, 762
- Iron Plating, 762
- Manganese, 761
- Nickel Plating, Bright, 761
- Sulfamic Acid Solvent, 762
- Electro-Organic Chemistry, 763
- Fused Electrolytes and Furnace Processes, 762-763
- Elementary Education, 941-947**
- Elizabeth and George VI, Visit to America, 84-85**
- Ely, Richard R., 213**
- Employment Conditions, 607-613**
- Agriculture, 610-611
- Construction, 609
- Change in Employment, 610
- Fluctuations and Trends, 607-608
- Indexes of Employment, 607
- Indexes for Selected Industrial Groups, 608
- Manufacturing, 499
- Mining, 608-609
- Petroleum Industry, 490
- Public Employment and Relief Work, 612
- Public Utilities, Trade and Hotels, 611-612
- Railroads, 609-610
- Index of Railway Employment, 610
- Volume of Unemployment, 612-613



# INDEX

**Enderbury Island**, 224  
*See* Equatorial Islands, American

**Engineering**, *see* Automotive, Electrical, Marine, Mechanical, Structural

**Engineering Education**, 961-962

**Engineering and Construction**, 676-719

**England**, Anglo-French Guarantees to Greece, Rumania and Turkey, 75  
 Contraband Control, 403-405  
 Expeditionary Force to France, 75  
 Metal Situation, 480-481, 482  
 Trade Agreements with U. S., 401  
 Visit of King and Queen to America, 84-85  
 War-Time Trade Policies, 406-408  
*see also* Chronology of Business and Finance, 425-436, Chronology of International Affairs, 110-119

**English Language and Literature**, 860-870  
 Chaucer, 863  
 Contemporary Authors, 870  
 Eighteenth Century, 867-868  
 English Language, 861  
 General Literature, 861, 862  
 Middle English Literature, 862-863  
 Milton, 867  
 Nineteenth Century, 868-869  
 Old English Literature, 862  
 Seventeenth Century Literature, 866  
 Sixteenth Century Literature, 863-865

**Enslow, H. R.**, 268

**Entomology**, 773-776  
 American Association of Economic Entomologists, 774-775  
 Economic Books, 775  
 Insecticides, 773-774  
 Juvenile Books, 775  
 Necrology, 776  
 Personnel, 775-776  
 Philosophical, Historical and Appreciative Works, 775  
 Technical Works, 775  
*see also* Insect Pests

**Equatorial Islands, American**, 223-226  
 Agricultural Projects, 225  
 Aviation, 225-226  
 Baker Island, 223  
 Canton Island, 223-224  
 Colonizing Developments, 225  
 Enderbury Island, 224  
 Howland Island, 223  
 Jarvis Island, 224-225

**Ethnology**, *see* Anthropology

**Europe**, *see* Chronology of Business and Finance, 425-436, Chronology of International Affairs, 110-119, U. S. and Europe, War

**Exploration, American**, 738-743

**Africa**, 741  
**Asia**, 740-741  
**Australasia**, 741  
**North America**, 739-740, 742  
 —Pacific Coast, 742  
**Polar Regions**, 738-739  
**South America**, 740  
*See also* Travel

**Exports**, *see* Foreign Trade

**FAIR Labor Standards Act**, 519, 602-603  
 Changes in, 602-603  
 Child Labor, 613-614

**Far East**, 5-6  
 Archaeology, 402, 831  
*See also* Orient

**Farley, James, A.**, 11-12

**Federal Administration Agencies**, 31-37  
 Bureau of the Budget, 32  
 Bureau of Employment Security, 33  
 Department of Agriculture, 35-36  
 Department of Commerce, 36  
 Department of the Interior, 35  
 Department of Justice, 36  
 Federal Loan Agency, 34  
 Federal Security Agency, 33  
 Federal Works Agency, 33-34  
 Housing of Executive Offices, 33  
 Liaison Office for Personnel Management, 32-33  
 Miscellaneous Boards and Commissions, 36-37  
 National Resources Planning Board, 32, 34  
 Office of Government Reports, 33  
 Reorganization, 31  
 State Department, 34  
 Treasury Department, 35  
 War Department, 34-35  
 White House, The, 31-32

**Federal Administrative Organization**, Personnel, 121-132  
 Congress, Members of, 128-132  
 —House of Representatives, 129-132  
 —Senate, 128-129  
 Department of Agriculture, 125-126  
 Department of Commerce, 126  
 Department of the Interior, 125  
 Department of Justice, 123-124  
 Department of Labor, 126  
 Department of the Navy, 124-125  
 Post Office Department, 124  
 Department of State, 121-122  
 Department of the Treasury, 122-123  
 Department of War, 123  
 Miscellaneous Executive Services, 127-128  
 President and Vice President, 121

**Federal Civil Service**, *see* Civil Service

**Federal Communications Commission**, 297-298, 701

**Federal Emergency Administration of Public Works**, 256

**Federal Housing Administration**, 578-579

**Federal Judicial Organization**, Personnel, 132-133  
 Circuit Court of Appeals of the U. S., 132  
 Court of Claims of the U. S., 133  
 District Court of the U. S. for the District of Columbia, 133  
 Supreme Court, 132  
 U. S. Attorney's Office, 133  
 U. S. Court of Appeals for the District of Columbia, 133  
 U. S. Court of Customs and Patent Appeals, 133  
 U. S. Customs Court, 133  
 U. S. Marshall's Office, 133

**Federal Loan Agency**, 34

**Federal Power Commission**, 296-297

**Federal Prosecutions and Judicial Decisions**, 133-138  
 Administrative Law, 134-135  
 Agricultural Control, 135  
 Alien Communists, 136  
 Anti-Trust Laws, 136-138  
 —Aluminum Companies, 137  
 —Association of American Railroads, 137  
 —Labor Group Practices, 136-137  
 —Medical Society of District of Columbia, 137  
 —Milk Prices, 138  
 —Motion Pictures, 137  
 —Motor Companies, 137  
 —Patent Privileges, 137  
 Civil Rights, 135-136  
 Criminal Procedure, 138  
 Labor Relations Board, 138  
 Multiple Taxation, 134  
 Tax Immunity, 134  
 Tennessee Valley Authority, 134

**Federal Real Estate Board**, 36

**Federal Security Agency**, 33, 567

**Federal Surplus Commodities Corporation**, 455, 566

**Federal Surveys and Maps**, 274-278  
 Coast and Geodetic Survey, 276  
 Federal Mapping, Scope of, 274-275  
 General Land Office, 275-276  
 Geological Survey, 275  
 National Resources Committee, 277-278  
 Public Roads, Bureau of, 276-277

**Federal Theatre**, 925-926

**Federal Works Agency**, 33-34, 295-296, 299-300, *see also* Public Works Administration

**Felt, E. Porter**, 773

**Fiction**, 834-840  
 American History, 834-835  
 American Regionalism, 835-836

# INDEX

- English Scene, 838-839  
 First Novels, 836-837  
 Foreign and Topical, 838  
 Historical Fiction, 836  
 Miscellaneous Popular Novels, 839-840  
 New York Realism, 836  
 Short Stories, 840  
 Spain and the Civil War, 837-838  
 Steinbeck and Sociology, 834  
 Translations, 837  
**Finance**, *see* Municipal, National, State.  
*See also* Banking Affairs  
 Fink, Colin G., 761  
**Finland**, Appeal to League of Nations, 103  
 Roosevelt Attitude toward, 3-4  
 War with Russia, 83  
*See also* Chronology of International Affairs, 110-119  
**Fire Insurance**, 416-418  
 Coverage, 417-418  
 Fire Loss, 416-417  
 Premiums, 417  
 Rates, 418  
 Standard Fire Policy, 418  
**Fisheries**, 464-467  
 American Marketing, 465  
 Conservation, 465-466  
 Legislative Developments, 23, 466  
 New, 465  
 Recreational, 465  
 Regulations, 466  
 Shipping, 465  
 U. S., 464-465  
 World Commercial, 464  
**Fiske**, Leon S., 220  
**Fleming**, John A., 729  
**Flood Control**, Legislation, 23, 169  
 on Mississippi River, 336  
 National, 336.  
*See also* Dams, Structural Engineering, Waterways and Harbors  
**Food Order Stamp Plan**, 442-443  
**Foreign Exchange**, 381-384  
 Belligerent Currencies, Outlook for, 383  
 Dollar Bloc, 382-383  
 —Statistics on, 382  
 Gold Movement, 383  
 Sterling Bloc, 381-382  
 —Statistics on, 381  
**Foreign Relations**, *see* Chronology of International Affairs, 110-119.  
*See also* Roosevelt  
**Foreign Service of the U. S.**, 99-102  
 Personnel, 99  
 —Changes, 99  
 —Classification, 100  
 —Diplomatic, 100-102  
 —Losses to the Service, 99  
 —Promotions from the Ranks, 99  
 Reorganization, 99-100  
**Foreign Tariffs and Commercial Policies**, 399-410  
 British Empire, 401, 406  
 —Purchase Undertakings for Empire Products  
 Far East, 402  
 Latin America, 402  
 Latin America and the War, 408-410  
 —Developments under Barter Accounts, 409  
 —Trade Agreement Activity, 410  
 Pre-War Europe, 400  
 War, Effect of on Trade Controls, 399-400  
 Wartime Europe, 402-406  
**Foreign Trade**, 364, 384-393  
 Capital Balance, 397-399  
 Export-Import Balance, Factors Affecting, 394  
 Exports, Commodity Character of, 389  
 —Commodity Groups, 385  
 —by Continents and Trade Regions, 388  
 —Cotton, 443  
 —Crude Materials, 386-387  
 —Geographical Distribution, 387-388, 391-392  
 —Manufactured Foodstuffs, 387  
 —Semi-Manufactures, 385-386  
 Exports, Imports and Balance of Trade in U. S., 384-387  
 Gold and Silver Balance, 397  
 Imports, Commodity Character of, 390-391  
 —Crude Foodstuffs, 387  
 —Crude Materials, 387  
 —Finished Manufactures, 387  
 —Geographical Distribution, 389  
 —Geographical Sources, 392-393  
 —Semi-Manufactures, 387  
 International Payments of the U. S., Balance of for 1938-1939, 399  
 Merchandise Balance, 395-396  
 Merchandise by Economic Classes, 386  
 Petroleum, 489  
 Service Balance, 396-397  
 Volume and Value, 384  
 War-Time Factors, 395, 502-503  
**Forestry**, 467-470  
 Forest Industries Conference, 468  
 Forest Protection, 469  
 Joint Congressional Committee on, 467-468  
 National Forests, 469-470  
 New England Forest Emergency Work, 468-469  
 Planting, 469  
**France**, Armaments Tax on Imports, 401  
 and Catholic Church, 645-646  
 Contraband Controls, 403-405  
 Metal Situation, 480-481, 482  
 Regulation of Imports and Exports, 400  
 Sale of American Planes to, 75  
 Stand Against Italy, 74  
*See also* Chronology of Business and Finance, 425-435, Chronology of International Affairs, 110-119  
**Freund**, C. A., 510  
**Freund**, Paul A., 133  
**Fronde**, Clifford, 725  
**GALLAGHER**, Hubert R., 166  
**Garner**, John N., 10  
**Genetics**, *see* Organic Evolution  
**Geological Surveys**, *see* State Geological Surveys  
**Geology**, *see* Economic Geology  
**Geophysical Sciences**, 720-746  
**George VI and Elizabeth**, Visit to America, 84-85  
**Germanic Languages and Literatures**, 870-873  
 Contemporary Literature, 872-873  
 Eighteenth Century, 871-872  
 Götterdämmerung in Nazi Germany, 870  
 History of Literature, 871  
 Nineteenth Century, 872  
 Philology, 870-871  
**Germany**, and Catholic Church, 643  
 Claim to Colonies and World-Trade, 74  
 Czecho-Slovakia, Seizure of, 74  
 Jewish Persecutions, 652  
 Metal Production, 480-482  
 Non-Aggression Pact with Russia, 3  
 Poland, Invasion of, 75  
 Rumania, Economic Agreement with, 74  
*See also* Chronology of Business and Finance, 425-436, Chronology of International Affairs, 110-119  
**Gold**, Balance, 397  
 Movement, 383  
 Production, 472  
 Shipments, 420-421  
**Golden Gate International Exposition**, 63-69  
**Goodrich**, Ernest P., 304  
**Gordon**, Cyrus H., 889  
**Gordon**, Myron, 765  
**Gould**, Jack, 924  
**Government Reorganization**, 139-140, 149  
**Gowen**, Herbert H., 90  
**Grain Spee Battle and Destruction**, 82  
**Grain Crops**, 448-453  
 Barley, 453  
 Buckwheat, 450  
 Corn, 451-452  
 Feed Grains, 450-451  
 Grain Sorghums, 453  
 Oats, 452-453  
 Rice, 450  
 Rye, 450  
 Wheat, 448-450  
 —Spring, 449-450  
 —Winter, 449  
**Great Britain**, *see* England  
**Greece**, Anglo-French Guarantee to, 75

# INDEX

- Archaeology, 886-887, 897-898  
**Greek Literature**, 884-888  
 Art and Archaeology, 886  
 History and Civilization, 886  
 Inscriptions and Papyri, 885-886  
 Language, Literature and Literary Criticism, 884-885  
 Loeb Classical Library, 884  
 Philosophy and Religion, 887-888  
**Green**, Thomas, S., Jr., 161  
**Grew**, Ambassador, 94  
**Guam**, 220-221  
 Agriculture, 221  
 Banking, 221  
 Education, 221  
 Government, 220  
 Health and Sanitation, 221  
 Historical, 220  
 Population, 220  
 Trade and Commerce, 221
- HAGUE** Case, 194  
**Haiduck**, Andrew F., 539  
**Hall**, R. Dawson, 475  
**"Ham and Eggs" Amendment**, 52  
**Harbors**, *see* Waterways and Harbors  
**Hardy**, Edward R., 416  
**Hardy**, E. R., Jr., 648  
**Hatch Act**, 138  
**Hawaii**, 205-208, 720  
 Area and Population, 206  
 Commerce, 206  
 Commercial Aviation, 208  
 Finances, 207  
 Government, 205  
 Motor and Rail Traffic, 208  
 Pineapples, 207  
 Sugar Industry, 206-207  
**Hayes**, H. K., 782  
**Health**, *see* Public Health  
**Heck**, N. H., 720  
**Highways**, 522-525  
 Federal-State Cooperative Work, 522  
 Inter-American Highway, 524-525  
 Main Highways, Modernization of, 523  
 Organization Change, 522  
 Road Construction in Federal Areas, 523-524  
 Safety, 524  
 Toll Roads *vs.* Free Roads, 524  
 Types of Road Completed, 522-523  
**Hines**, Frank T., 327  
**Hiscock**, Ira V., 799  
**History**, 843-847  
 Cities, 846  
 Colonial and Revolutionary History, 843-844  
 Constitutional, 844  
 Diplomatic, 844-845  
 Economic, 845  
 European, 846-847  
 Histories of General Scope, 843  
 Military and Naval, 846
- Political, 844  
 Social, 845  
 Westward Movement, 845-846  
**Hitler**, 3, 74, 78, 79  
**Hoehler**, Fred K., 564  
**Hoover**, Herbert, 14-15  
**Hoover**, Thomas Nathanael, 52  
**Hopkins**, Harry L., 12  
**Hormell**, Orren C., 177  
**House of Representatives**, U. S., Members of, 129-132  
**Housing**, 578-582  
 Chronology, 149  
 Congressional Legislation, 25  
 Desmond-Moffett Bill, 165  
 Federal Housing Administration, 578-579  
 Financial Condition and Losses, 581  
 Health, 802  
 Home Mortgage Insurance, 579-580  
 Modernization Loan Insurance, 580  
 Mortgage Liquidity, 581-582  
 Rental Housing Mortgage Insurance, 581  
**Housing**, Low Rent, Public, 582-585, 916-917  
 Costs and Results, 583  
 Equipment and Insurance Savings, 584  
 New York City, 187-188, 683  
 Public Housing Program, Expansion of, 584  
 Rents, 584  
 Slum Problem, Official Recognition of, 582  
 Social Aspect, 585  
 U. S. Housing Act, Provisions of, 583  
 U. S. Housing Authority, 582-583  
*See also* Chronology of Public Affairs  
**Howland Island**, *see* Equatorial Islands, American  
**Huebner**, S. S., 361, 369  
**Hulin**, Wilbur A., 810  
**Hull**, Cordell, 11  
**Hygiene**, *see* Public Health
- ICKES**, Harold L., 12  
**Immigration and Population**, 550-563  
**Income Taxes**, *see* Taxes  
**Indo-European Linguistics**, 891-894  
 Germanic, 893-894  
 Greek and Latin, 893  
 Hittite, 892-893  
 Indo-Iranian, 892  
 Linguistic Society of America, 891-892  
**Insect Pests and Plant Quarantines**, 458-464  
 Beekeeping, 463-464  
 Black Hills Beetle, 461  
 Black Stem Rust Control, 463  
 Boll Weevil, 463  
 Cattle Grubs, 464  
 Citrus Canker Eradication, 460  
 Cotton Flea Hopper, 463  
 Dried-Fruit, 459
- Dutch Elm Disease, 461  
 European Corn Borer, 462  
 European Spruce Sawfly, 461  
 Fruitfly Investigations, 460  
 Fruit Insects, 459  
 Grasshoppers, 462  
 Gypsy Moth, 461  
 Horn Flies, 464  
 Infestation, Measures Against, 458-459  
 Japanese Beetles, 459-460  
 Mormon Crickets, 462  
 Pea Weevil, 463  
 Peach and other Parasites, 459  
 Peach Moosaic and Phony Peach Disease, 460  
 Pink Bollworm Control, 463  
 Scale Insects, 459  
 Screwworms, 464  
 Stored-Grain Insects, 463  
 Sugarcane Borer, 462-463  
 Tomato Fruitworm, 463  
 Transit Inspection, 464  
 Vetch Bruchid, 462  
 Western Pine Beetle, 461-462  
 White-Fringed Beetle, 461-462  
 White-Pine Blister Rust Control, 461
- Insurance**, *see* Casualty and Miscellaneous, Fire, Housing, Life, Marine  
**Interdenominational Activities**, 626-637  
 Church and International Affairs, 629-631  
 Federal Council of Churches, 634  
 Financial Statistics, 632-633  
 Home Missions Council, 635  
 Institute of Human Relations, 635-636  
 Inter-Council Field Department, 631-632  
 Pacifist Movement, 627-628  
 Religion and War in Europe, 626-627  
 Social and Economic Appeals, 629  
 U. S. Ambassador to Vatican, 628-629  
 World Conference at Madras, 634-635  
 World Conference of Christian Youth, 631  
**Internal Commerce**, Conditions of, 500-502  
 Basic Production, 500  
 Distribution and Trade, 500-501  
 Employment and Purchasing Power, 501  
 Individual Industries, 500  
 Outlook, 502  
 Prices, Profits and Finance, 501-502  
**International Affairs Affecting the United States**, 73-120  
 Chronology, 110-119  
**International Labor Organization**, 108-109  
**Iraq**, 96  
**Iron and Steel**, 473-475  
 Alloy Steels, 474  
 Electric Steel, 474  
 Exports, 473



# INDEX

- Manufacturing Conditions in, 495-496  
 Outlook for the Industry, 474-475  
 Pig Iron and Steel Production, 473-474  
 Research, 474  
 Stainless Steels, 474  
 Upturn in Operations, 365, 473  
*Iroquois Hoax*, 539  
*Irrigation*, *see* Reclamation  
 Italy, Albania, Invasion of, 74 and Catholic Church, 642-643  
*See also* Chronology of International Affairs, 110-119
- JACK**, Peter Monro, 834, 840, 855  
**Jackson**, Charles E., 464  
**James**, F. Cyril, 230  
**Japan**, *see* Orient  
**Jarvis Island**, *see* Equatorial Islands, American  
**Jews**, *see* Judaism, Race Conditions in U. S.  
**Joerg**, W. L. G., 274  
**Johnson**, Fred W., 288  
**Jones**, Howard P., 189  
**Judaism and Jewish Communal Affairs**, 652-657  
 Anti-Jewish Agitation, Decline in, 654  
 Dominican Republic, Refugee Haven in, 653  
 Efforts for Goodwill and Cooperation, 655  
 German Persecutions, 652  
 Nazi-Soviet Pact, Condemnation of, 653-654  
 Palestine, 653  
 Protective Organizations and Activities, 657  
 Refugee Service, Financing of, 652-653  
 Religious Activities and Discussions, 655-656  
 Social Welfare, 656  
 Zionism, 656-657  
*See also* Race Conditions in the United States  
**Judicial Decisions**, *see* Federal Prosecutions, Supreme Court  
**Judiciary**, Chronology of, 149-150
- KAUFMANN**, F. W., 870  
**Kenner**, Frank T., 223  
**Killough**, Lucy Winsor, 258  
**Kohn**, Robert D., 55  
**Kramer**, Roland L., 384
- LABOR and Labor Legislation**, 589-617  
*See also* Child Labor  
**Labor Conditions**, 589-606  
 Anti-Trust Laws, 136-137  
 Building Industry, 915-916  
 Chronology of, 150-151, 159  
 Coal Mines, 476-477  
 Employment and Pay Rolls, 595-596  
 Farm Labor, 605-606  
 Food Stamp Plan, 598-599
- Industrial Disputes, 592-593  
 —Adjustments, 592  
 —Chrysler Strike, 593  
 —Mining, 592  
 —W. P. A. Wages, 593  
 International Labor Organization, 108-109  
 Labor Organizations, 589-590  
 Legal Changes Affecting Labor, 26, 591-592  
 —Court Decisions, 138, 592  
 —Labor Legislation, 591  
 —Picketing, 591  
 —Unfair Labor Practices, 591  
 —Unreasonable Restraints, 591  
 Manufacturing, Conditions in, 499  
 Merchant Marine, Conditions in, 539  
 Motion Picture Industry, 933  
 National Labor Relations Act, 593-595  
 —Board Disagreements, 594  
 —Collective Bargaining, 594  
 —Criticism, 593  
 —Fansteel Case, 594-595  
 —Strikes, 594  
 —Suggested Amendments, 593  
 Prices and Cost of Living, 604-605  
 Public Works Program, 596-597  
 —“Little W.P.A.’S,” 597  
 —Regrouping of Agencies, 596  
 —W.P.A. Employment, 596-597  
 Roosevelt, F. D., 8  
 Stage, 924-925  
 State Legislation, 163  
 Unemployment Insurance, Old-Age Insurance and Old-Age Assistance, 597-598  
 Unemployment Problem, 595  
 U. S. Employment Service, 596  
 Wage and Hour Policies, 601-604  
 —Fair Labor Standards Act, Administration of, 602-603  
 —Labor Organizations and Collective Agreements, 603-604  
 —Public Contracts Act, 603  
 —Work Projects Administration, 603  
 Wages and Hours, 599-601  
 Estimated Effect of Fair Labor Standards Act, 601  
*See also* Chronology of Public Affairs, 150-151  
**Labor Relations Board**, 138  
**La Guardia**, Fiorello H., 14  
**Landon**, Alfred M., 15  
**Lane**, George S., 891  
**Larisey**, Mary Maxine, 776  
**Latin America**, Archaeology, 829-830, 899  
 and Catholic Church, 645  
 European War, Effects of no Trade, 408-410
- Developments under Barter Accounts, 409  
 —Trade Agreement Activity, 410  
 Roosevelt, F. D., Policy of, 6  
**Latin America**, U. S. Relations with, 85-90  
 Brazil, Economic Relations with, 89-90  
 Cooperative Neutrality, 86  
 Cultural and Scientific Relations, 88  
 Financial and Economic Advisory Committee, 87-88  
 Inter-American Conference at Panama, 85-86  
 Mexico, 88  
 Nicaragua, Economic Relations with, 89  
 Panama Canal Zone Treaty, 88-89  
 Paraguay, Economic Relations with, 89  
 300 Mile Protective Zone, 86-87  
 Trade Agreements, 90, 402  
*See also* Chronology of Business and Finance, 425-436, Chronology of International Affairs, 110-119
- Latin Literature**, 879-884  
 Classical Latin Authors, 879-880  
 Epigraphy and Numismatics, 882  
 Language, Grammar and Prosody, 882  
 Literary History and Criticism, 881-882  
 Loeb Classical Library, 879  
 Medieval and Late, 881  
 Miscellaneous, 884  
 Political, Social and Economic History, 882-883  
 Religion, 883-884  
 Text-History, 882  
**Laughlin**, Harry H., 550  
**Lead**, 484  
**League of Nations and Associated Agencies**, 102-109  
 American Relations of, 102-103  
 Cultural Cooperation, 107-108  
 Drug Control, 106  
 Economics, Finance and Transit, 104-105  
 Health, Nutrition and Housing, 105-106  
 International Labor Organization, 108-109  
 —American Attitude toward, 109  
 —American Influence, 108  
 —Labor Conferences, 109  
 —Public Works and Industry, 109  
 —Statements of Policy, 108-109  
 Legal Affairs, 107-108  
 New York World’s Fair, 107  
 Non-Political Developments, 104  
 —American Cooperation, 104  
 —Bruce Committee, 104  
 —Economic and Social, 103-104  
 Political Developments, 103



# INDEX

- Curtailment of Activities, 103
- Finland and Russia, 103
- Refugee Problem, 106-107
- Social Questions, 106
- U. S. Attitude toward, 102
- World Court, 108
- Leahy, William D.**, 208
- Legal Education**, 982-983
- Libraries**, 986-991
  - Adult Education, 987
  - American Library Association, 989-990
  - Federal Relations, 986
  - Friends of the Library Groups, 989
  - Gifts, Grants and Buildings, 988-989
  - Personnel, 988
  - Publications, 990-991
  - Service of Established Libraries, 986-987
  - State Developments, 986
  - Surveys and Studies, 987
  - Training, 987-988
- Life Insurance**, 410-416
  - Assets, 410-411
  - Dividends, 413
  - Escheat Statute, 415-416
  - Fraternal Insurance, 413-414
  - Industrial Insurance, 412
  - Investments, 412
  - Mortality Table Revised, 414-415
  - New Business and Insurance in Force, 411-412
  - Statistics on, 411-412
  - New York Code Revision, 414
  - Savings Bank Insurance, 414
  - Surrenders and Policy Loans, 413
  - T.N.E.C. Investigation, 415
- Literature and Language**, 834-896
- Lovette, Leland P.**, 342
- MACDONALD, Thomas H.**, 522
- Mackintosh, Helen K.**, 941
- Maddox, W. Rolland**, 170
- Manufactures and Transportation**, 492-549
- Manufacturing**, Conditions in, 492-502
  - Aircraft Industry, 497-498
  - Automobile Production, 496-497
  - Consumers' Goods, 493
  - Electric Utilities, 494
  - Employment and Wages, 499
  - Industrial Earnings and Dividends, 499
  - Industrial Production, 492-493
  - Iron and Steel, 495-496
  - Machinery and Equipment, 498-499
  - Non-Ferrous Metals, 496
  - Petroleum and Refinery Products, 493-494
  - Railroads, 494-495
- Maps**, *see* Federal Surveys and Maps
- Marine Engineering**, 711-717
  - Cargo Handling, 715
  - Cargo Preservation, 712
  - Materials, 713-714
  - New Ships, 716
  - Propulsion, 714-715
  - Reconditioning and Scraping, 716-717
  - Research, 712-713
  - Safety Features, 711-712
  - Shipyards Practice, 711
  - Styling and Decoration, 714
  - Trends, 717
- Marine Insurance**, 419-421
  - American Cargo War Risk Insurance Exchange, 420
  - Gold Shipments, 420-421
  - Hulls, 421
  - Inland Marine, 419
  - Ocean Marine, 419
- Markets**, *see* Security and Money Markets
- Martin, Joseph W., Jr.**, 16-17
- Martin-Dillon, Paul**, 637
- Mathematics**, 661-667
  - Algebra, 665
  - American Mathematical Society, 661-662
  - Analysis, 665
  - Geometry, 666
  - Mathematical Association of America, 664
  - Mathematical Reviews, 662-664
  - Symposiums and Conferences, 664-665
- McDonald, Stewart**, 578
- McNutt, Paul V.**, 12-13, 214
- Mechanical Engineering**, 684-690
  - Gas Turbine, 688
  - Materials, 686-687
  - Miscellaneous, 689-690
  - Railroad Locomotives, New, 689
  - Research, 684-685
  - Standards, 685-686
  - Steam Power, 687
  - Water Power, 688-689
- Medical Education**, 963-964
- Medical Sciences**, 789-809
- Medicine**, Physiology and Pathology, 789-795
  - American Medical Association and Government, 794-795
  - Chemo-Therapy, 789-791
  - Hypertension, 793-794
  - Vitamins and Hormones, 791-793
- Meleney, Frank L.**, 795
- Merchant Marine**, 532-539
  - American Flag Services to South American Ports, 536
  - Contraband Search, 534-535
  - Great Lakes Ports Commerce, 534
  - Health and Fitness of Seamen, 538
  - Maritime Commission, Activities of, 533-534
  - Naval Reserve Activities, 537
  - Rescue Work, Capture, Labor Unrest, 539
  - Shipping under War Stress, 532-533
  - Training of Licensed Officers, Cadet and Seamen, 538-539
  - Transfers to Foreign Registry and Sales to Aliens, 533
- U. S. Superliners, 537
- Vessel Sales and Operating Charters, 535-536
- War Effect on New Merchant Ship Projects, 536-537
- Merrill, John E.**, 667
- Messer, William Stuart**, 884
- Metals**, *see* Iron and Steel, Non-Ferrous
- Meteorology and Climatology**, 735-738
  - Airways Service, 736
  - Research outside Weather Bureau, 737-738
  - Trends, Programs, Research, 735
  - War and International Cooperation, 735-736
  - Weather Bureau, 736, 737
  - Archaeology, 899
- Mexico**, and Catholic Church, 644
  - Roosevelt, F. D., Policy of, 6
  - U. S. Relations with, 88
  - See also* Chronology of Business and Finance, 425-436, Chronology of International Affairs, 110-119
- Mischelbacher, G. F.**, 421
- Miller, John A.**, 528
- Mineral Industries**, 472-491
- Mineralogy and Petrography**, 725-726
  - Clays, Research on, 725-726
  - Crystal Optics, 727
  - Diamonds, 726-727
  - New Books, 728-729
  - New Minerals, 728
  - Roebling Award, 727
  - Specific Gravity Determination, 727
  - Staining Technique in Petrography, 727
  - Sulphide Minerals, Pyro-synthesis of, 727
- Ministers Accredited to U. S.**, List of, 101-102
- U. S. List of, 101-102
- Mitchell, Harry B.**, 138
- Money Markets**, *see* Security and Money Markets
- Moore, Charles N.**, 661
- Moore, Ernest Richard**, 874
- Moscicki, Ignaz**, 3
- Motion Pictures**, 932-938
  - Biography and History, 936-937
  - Box-Office Favorites, 937
  - Cartoons, 937
  - Censorship, 938
  - Foreign Films, 938
  - Horse Operas, 936
  - Industry, 932-933
  - Labor, 933
  - Legislation, 933
  - Litigation, 933
  - New Faces of 1939, 937
  - Production Facts, 934-935
  - Remakes, 936
  - Trends and Cycles, 935-936
- Motor Bus Industry**, 525-528
  - Bus Operations, 526-527
  - Cheaper Bus Travel, 527-528
  - Equipment Developments, 526
  - Federal Regulation, 527
  - Outlook, 528
  - Passengers and Revenue, 527

# INDEX

Tax Increase, 527  
 Traffic Volume, 525-526  
**Municipal Finance**, 251-258  
   Bond Market, Improvement in, 256  
   —Municipal Bond Issues, 256  
   Debt Adjustment Legislation, 257-258  
   Debt Defaults, 257  
   Expenditures, 251-252  
   —Importance of Different Functions, 253  
   —Per Capita, 252  
   —Percentage for Different Functions, 253  
   Federal Emergency Administration of Public Works, 256  
   Indebtedness, 254-255  
   Revenue, Sources of, 254-255  
   —Per Capita Receipts, 254, 255  
   —Percentage of Receipts from Various Sources, 254, 255  
   —Poll and Business Taxes, 254  
   —Property Taxes, 254  
   Tax Delinquency, 257  
**Municipal Government**, 183-201  
**Municipal Government**, Functions and Types of, 192-200  
   Billboards, 199-201  
   City Financing, 193-194  
   Council-Manager Plan, 192-193  
   Fire Prevention, 198-199  
   Planning and Zoning, 193  
   Police Management, Training in, 196-197  
   Police Regulation and Jurisdiction, 197  
   Public Meetings, 194-195  
   Public Safety and Welfare, 195-196  
   Public Service Training, 197-198  
   Radio Facilities, 199  
 Murphy, Frank, 10  
**Music and the Opera**, 917-923  
   Choral Music, 923  
   Festivals, 921-922  
   —Bach, 921  
   —Berkshire, 921  
   —Worcester, 921  
   Opera, 917-919  
   —American Lyric Theatre, 918  
   —Chicago, 918  
   —Juillard School, 918  
   —Metropolitan, 917-918  
   —Philadelphia, 918  
   —St. Louis, 918  
   —San Francisco, 918  
   —World's Fair, 918-919  
   Orchestras, 919-921  
   —Boston Symphony, 919  
   —Chicago, 920  
   —Cleveland, 920  
   —National Symphony, 920  
   —New York Philharmonic, 919  
   —Philadelphia, 919  
   Summer Music, 922  
**Mussolini**, 2, 74, 78

**NADLER**, Marcus, 381  
**National Defense**, Chronology, 153-154  
   "Emergency" Proclamation, 80  
   Legislation, 22-23  
   Expansion of, 76  
   Roosevelt, F. D., Policy of, 2  
   See also Army, Navy  
**National Finance and the Public Debt**, 230-240  
   Actual and Estimated Budgets, 231-233  
   Federal Expenditures, 233  
   Fiscal Policy, Analysis of, 239-240  
   Government Obligations, Distribution of, 238-239  
   Interest Rates and Yields, 236-238  
   Public Debt, Growth of, 233-236  
   —Statistics on, 234, 235  
**National Government**, 121-160  
   Chronology of, after adjournment of Congress, 144-159  
**National Labor Relations Act**, 593  
**National Parole Conference**, 575-576  
**National Personalities**, 9-17  
**National Youth Administration**, 984-985  
**Naval Construction and Equipment**, 349-359  
   Auxiliary Conditions, 350-351  
   Construction Projects, 355-356  
   Craft Under Construction, 351-352  
   Destroyer and Submarine Operating Defects, 356-358  
   Engineering and Construction Activities, 358  
   Expenditures, Current and Projected, 353-354  
   Motor-Torpedo Boat and Submarine Chaser Development, 353  
   Navy Yard Facilities, 359  
   U. S. Naval Policy, 349-350  
**Navy**, U. S., 342-349  
   Asiatic Fleet, 345  
   Aviation, 345  
   —Aircraft, 345  
   —Flights, 345  
   Employment of Forces, 342  
   —Basic Policy, 342  
   —Objectives, 342  
   —Organization, 343  
   Marine Corps, Operations of, 348  
   Naval Communications, 346-348  
   Naval Intelligence, 346  
   Naval Transportation Service, 346  
   Operating Force and Personnel Plans, 343  
   —Personnel, 343  
   —Plans, 343  
   —Purpose, 343  
   —Ships in Commission, 343

—Ships Placed Out of Commission, 343  
**Special Service Squadron**, 345-346  
**Squadron Forty**, 346  
*Squalus*, Sinking of, 348-349  
**Technical Developments**, 348  
**U. S. Fleet**, 344  
   —Engineering Performance, 344  
   —Gunnery, 344  
   —Operations, 344  
   —Tactics, 344  
**Nazi-Soviet Pact**, 653-654  
**Near East**, U. S. Relations with, 96-99  
   Arabia, 96  
   Egypt, 96  
   Iraq, 96  
   Languages and Literature, 889-891  
   Palestine, 96-98  
   Syria, 96  
   Turkey, 98-99  
**Necrology for 1939**, 994-999  
**Negro**, see Education, Race Conditions  
**Neutrality**, see War  
**Neutrality Act**, 78, 81, 532  
**New York City Affairs**, 183-189  
   Administration Conflict with Courts, 183  
   City Planning, 184  
   City Purchasing, 184-185  
   Department of Correction, 188  
   Finances, 184  
   Health, 186-187  
   Hospitals, 187  
   Housing, 187-188  
   Legal, 185  
   Municipal Prosecutions, 189  
   Parks, 188  
   Personnel, 185  
   Political Reverses, 183  
   Public Relief, 186  
   Public Safety, 188-189  
   Public Works, 186  
   Tax Levies and Collections, 184  
   Transportation, 189  
**New York World's Fair of 1939**, The, 55-62  
**Non-Ferrous Metals**, 480-484  
   Copper, 481-483  
   —and the War, 482  
   Lead, 484  
   Manufacturing Conditions, 496  
   Production, Foreign, 480-481  
   —U. S. and Canadian, 480  
   —World, 480  
   Tin, 481  
   Zinc, 484  
**Notman**, Arthur, 472, 480  
**Nugent**, Frank S., 932

**OCEANOGRAPHY**, 743-745  
   American Geophysical Union, 745  
   Atlantic Coast, 743-744  
   —Ice Observations and Patrol Service, 743  
   —Tide Observations and Hydrographic Surveys, 743-744  
   Gulf of Mexico, 745

# INDEX

- International Union of Geodesy and Geophysics, 745  
Ocean Bottom Surveys, 745  
Pacific Ocean, 744-745  
—Hydrographic Surveys, 744  
—Marine Studies, 744-745  
—Tide Observations, 744
- Opera**, *see* Music
- Organic Evolution and Genetics**, 765-773  
Bacteria and Chemistry of Evolution, 768  
Chimpanzee, Similarity to Man, 766  
Chromosome Structure, 767-768  
Chromosome Types and Geographical Units, 768-769  
Ecology and Evolution, 770-771  
Evolution of Locomotor Apparatus in Ocean Sunfish, 769-770  
Genetic Factors and Epidemics, 765-766  
Maize, Evolution of, 765  
Mutations by Hybridization, 769  
Prehistoric Life, 770  
Protective Coloration, 769  
Publications, 771-773  
Races of Rodents and Men, 767  
Seventh International Congress of Genetics, 765  
Sexuality or Mating Types in Protozoa, 766  
Social Organization, Evolution of, 766
- Orient**, U. S. Relations in, 90-95  
Ambassador Grew, Course of, 94  
Catholic Church, 647-648  
China, Trade and Other Measures in, 91  
Commercial Treaty of 1911, Abrogation of, 6, 93  
European War Repercussions, 93  
Evaluation of Policy, 90-91  
Japan, and American Nationals, 92  
—Restrictions on American Shipping, 92  
—Tientsin Blockade, 92-93  
Moral Embargo on Implementations of War, 93  
Outlook for, 95  
Pending Questions and Problems, 94-95  
Saito, Hiroshi, Death of, 93
- Osgood**, Thomas H., 750
- PAGE**, John C., 285
- Painting**, 901-909  
Auction Sales, 909  
Exhibitions, 906-908  
Federal Art Project, 905-906  
International, 909  
Kress Gift to Nation, 905-906  
Museum Accessions, Gifts, Bequests and Purchases, 908-909
- Museum Purchases of American Painting, 908  
Treasury Department Section of Fine Art, 904-905  
World's Fairs and Art, 901-904
- Palestine**, 96-98, 653
- Pan Americanism**, Congressional Legislation, 25
- Panama Canal Zone Treaty**, 88
- Panama**, Declaration of, 81-82, 85
- Pathology**, *see* Medicine
- Pelley**, J. J., 517
- Penal Institutions**, *see* Crime Control
- Peterson**, Mildred Othmer, 986
- Petrography**, 726-729
- Petroleum**, 484-491  
Conditions in Industry, 493-494  
Crude Oil, 485, 723-724  
—Exploration and Drilling Activity, 485, 723-724  
—Foreign Trade, 486  
—Prices, 486  
—Production Statistics, 485  
—Reserves, 490  
—Storage, 485  
—World and Domestic Output, 485  
Employment and Payrolls, 490  
Marketing, 488  
—Foreign Trade, 488  
—Gas, Oil, Distillate Fuel Demand, 488  
—Motor Fuel Demand, 488  
—Oil Burners in Operation, 488  
—Residual Fuel Oil Demand, 488  
Motor Fuel, 487  
Prices, Crude Oil, 486  
—Index of Wholesale Prices, 488  
—Motor Fuel Prices and Taxes, 489  
Refining, 486-487  
—Miscellaneous Refined Products, 487  
—Refinery Operations, 486-487  
—Volume, 486  
Reserves, 490  
Taxes, 489-490
- Philippine Islands**, 213-217  
Citizenship, 213-214  
Congressional Legislation, 26  
Education, 217  
Finances, 216  
Government Organizations, 214  
Joint Preparatory Committee Report, 214-215  
Legislation, 216  
Political and Governmental Status, 213  
Trade, 216-217  
U. S. High Commissioner, 214
- Philosophical and Social Sciences**, 810-833
- Philosophy**, 819-826  
Aesthetics, 825  
Ethics, 824-825  
History of Philosophy, 820-821
- Logic, 824  
Metaphysics and Epistemology, 821-822  
New Journals, 826  
Religion, 825-826  
Science, Philosophy of, 822-823  
Thomism, 822  
Science, Unity of, 823-824  
Social and Political Philosophy, 825  
Texts and Source Books, 819-820
- Physics**, 750-755  
Applied Physics, 754-755  
Atomic Masses, 753-754  
Cosmic Rays, 752-753  
Fission of Uranium, 750-751  
Nuclear Magnetic Moments, 754  
Spectroscopy, 754  
Stellar Energy, 751-752
- Physiology**, *see* Medicine
- Pius XI**, Death of, 637
- Pius XII**, 4  
Election as Pope, 642  
Peace Efforts, 642
- Plants**, *see* Diseases of, *also* Insect Pests and Plant Quarantines
- Platt**, Elizabeth T., 852
- Poetry**, 840-843  
Anthologies, 841-842  
Collections and Selections, 840  
Drama, Radio, 843  
English and Irish Poetry, 842  
Lyric, 841  
New and Younger Poets, 841  
Translations, 842-843
- Poindexter**, Joseph B., 205
- Poland**, and Catholic Church, 643  
Invasion of, 75  
*See also* Chronology of International Affairs, 110-119
- Polar Regions**, Byrd Antarctic Expedition, 729  
Exploration, 738-739
- Political Events**, 1939, Chronology of, 70
- Popper**, David H., 73, 79
- Population Statistics**, 558-563  
Births and Deaths, 559  
Foreign-Born Population Unable to Speak English, 562  
Future Population, Estimates of, 559  
Gainful Workers by Occupation, 561, 562  
Growth of Population, 558  
Native Population by State of Birth, 560, 561  
—Statistics, 561  
Statistical Summaries, 562-563  
Urban Population, 559-560, 561
- Prentice**, Donald B., 684
- President**, The, and His Policies, 1-9  
*See also* Roosevelt, Franklin D.
- Price**, Paul H., 278
- Professional Education**, 961-968
- Propaganda Analysis**, 951



# INDEX

**Protestant Denominational Activities**, 618-626  
 Baptists, 619-620  
 —Baptist World Alliance, 620  
 —Northern Convention, 619  
 —Southern Convention, 619-620  
 Congregational and Christian Churches, 620-621  
 Disciples of Christ, 621-622  
 Lutherans, 622  
 —Evangelical Lutheran Augustana Synod, 622  
 —Meetings and Conventions, 622  
 —United Lutheran Church, 622  
 Methodist Church, 623  
 —Unification, 623  
 —War, Stand on, 623  
 Moral Problems Relating to War, 618-619  
 Presbyterian Church, 623-625  
 Protestant Episcopal Church, 625  
 Smaller Denominations, 625-626  
**Psychology**, 810-818  
 Abnormal, 812-813  
 —Case Study, 812  
 —Hypnosis, 812-813  
 —Social Aspects, 813  
 —Therapy, 813  
 Animal, 816  
 —Drive, 816  
 —Growth, 816  
 —Neurosis, 816  
 Business, 818  
 —Consumer Research, 818  
 —Law, 818  
 —Radio Research, 818  
 —Salesmanship, 818  
 Feeling and Emotion, 814-815  
 General, Events, 810  
 —Extra-Sensory Perception, 811  
 —Popular, 810  
 —Textbooks, 810  
 —Theory, 810-811  
 Intelligence, 817-818  
 —Individual Differences, 817  
 —Student Problems, 818  
 —Testing, 818  
 Learning, 816-817  
 —Conditional Responses, 817  
 —Memory, 817  
 —Skill, 816-817  
 Physiological, 815-816  
 —Bodily Activities, 816  
 —Brain, 815  
 —Drugs, 815-816  
 Sense Perceptions, 813-814  
 Social, 811-812  
 —Auto Traffic, 812  
 —Current Situation, 811  
 —Group Measurements, 811  
 —Personality, 811  
 —Practical Problems, 812  
 Thought, 817  
 —Attention, 817  
 —Mechanisms, 817  
**Public Administration**, Training for, 197-198, 964-966  
**Public Affairs**, 1939, Chronology of, 69-70

**Public Finance and Taxation**, 230-272  
**Public Health and Hygiene**, 799-802, 964  
 Birth Control, 801  
 Cancer and Pneumonia, 800  
 College Students, Health of, 801-902  
 Community Sanitation, 800  
 Expansion of Health Services, 800-801  
 Health Education, 802  
 Housing and Health, 802  
 Maternal and Child Health, 800  
 National Health Program, 799  
 Nutrition, 801  
 School Health Program, 802  
 Venereal Disease Control, 799-800  
**Public Lands**, 288-294  
 Board of Equitable Adjudication, 289  
 Conservation and Regulation, 288-289  
 District Land Offices, 289  
 General Land Office, 278, 288  
 Leases, 293-294  
 —Coal, Cancellation of, 289  
 —O. and C. Administration, 290  
 Patents and Certificates, 293  
 Public Survey Offices, 290  
 Range Development Service, 290  
 Receipts and Expenditures, 291  
 Records, Copies of, 289  
 Reports on Bills, 289  
 Taylor Grazing Act, Grazing Leases Under, 292-293  
 —Receipts under, 291  
**Public Resources and Utilities**, 274-310  
**Public Utilities**, 294-299  
 Federal Communications Commission, 297-298  
 Federal Power Commission, 296-297  
 General Regulatory Advances, 299  
 Municipal Transportation Systems, 298  
 Public Works Projects, 295-296  
 Statistics on, 295  
 Rural Electrification, 296  
 Securities and Exchange Commission, 297  
 Tennessee Valley Authority, 294  
**Public Works Administration**, 520, *see* Federal Works Agency  
**Puerto Rico**, 208-213  
 Agriculture, 211-212  
 Defense, 211, 321  
 Description and Area, 208  
 Economic Conditions, 209-210  
 Education, 212  
 Finance, 210-211  
 Government, 208  
 Health, 212  
 Labor Conditions, 212-213  
 Legislation, 209  
 Tourist Promotion, 209  
 Trade and Commerce, 210

**RACE Conditions in the U. S.**, 550-558  
 American Bar Association, Race Standards of, 558  
 American Race, Biological Basis of, 555-556  
 D. A. R. and Mrs. Roosevelt, 550-551  
 Equality of Civil Rights, 552  
 Foreign-Born and Unemployed, 553  
 Missouri Law School for the Negro, 557  
 Negro, Higher Education of, 557-558  
 Negro Lynchings, Decrease of, 557  
 —New York State Report on, 551  
 New York Report on Immigration and Naturalization, 552-554  
 North Carolina, Racial History in, 550  
 Puerto Ricans in New York City, 551  
 Race Element in California's Migratory Labor, 556  
 Racial Differences, 554-555  
 Southern Negro Workers in New Jersey, 556-557  
**Radio**, 697-702  
 Acoustics, 702  
 Adult Education, 972-973  
 Aviation, 699-700  
 Broadcasting Stations, 700  
 Electronic Research, 702  
 Entertainment Receivers, 697-698  
 Facsimile, 701-702  
 Frequency Modulation, 698  
 Police Radio, 699  
 Sales of Radio and Allied Equipment, 698  
 Short Waves, 702  
 Television, 700  
 —F. C. C. Television Committee, 701  
 Test Equipment, 700  
 Transmitters, 699  
**Railroads**, 517-522  
 Competition, 520  
 Conditions in, 363 364, 494-495  
 Employment Conditions, 609-610  
 Equipment and Maintenance, 517-518  
 Fair Labor Standards Act, 519  
 Financial and Operating Results, 520-521  
 Omnibus Bill, 518-519  
 Operating Performance, 521  
 Other Railroad Legislation, 519  
 Outlook, 521  
 R. F. C. and P. W. A. Loans, 520  
 Rates and Fares, 519-520  
 Receiverships and Trusteeships, 520  
 Traffic Increase and Railroad Efficiency, 517  
 Randall, Charles E., 467  
**Reclamation and Irrigation**, 285-287  
 All-American Canal, 286



# INDEX

- Boulder Dam, 286  
Bureau of Reclamation, 285  
Library, 287  
Central Valley Project, 286  
Construction, 285  
Grand Coulee Dam, 285-286  
Irrigation Projects, 287  
Reclamation Financing, 287  
Reclamation Results, 286  
**Reed, Henry H.**, 419  
**Refugee Problem**, 106-107, 652-653  
**Relief**, 186  
Chronology, 157  
*See also* Employment Conditions  
**Religion and Religious Organizations**, 618-660  
**Revenue Act of 1939**, 27  
**Richardson, L. S.**, 454  
**Rittenhouse, Irma**, 607  
**Roman Catholic Church**, *see* Catholic Church  
**Romance Languages and Literatures**, 874-879  
Bibliographies, 874-875  
Comparative Literature, 878-879  
French (1500-1800)  
French (1800-Contemporary)  
Medieval, 875-876  
Italian, 877  
Linguistics, 875  
Spanish, 877-878  
Spanish American Literature, 878  
**Roosevelt, Franklin D.**, 9-10  
Administrative Reorganization, 8  
Chronology of Activities, 154-157  
Congress, Relations with, 17-19  
Foreign Policy, 1-6  
—Europe, 2-4  
—Far East, 5-6  
Hitler, Message to, 2  
Labor, 8  
Latin America, 6  
Library, 28, 37  
Mexico, 6  
National Defense, 2  
Neutrality, 4-5  
Party Policy, 9  
Peace Efforts, 77-78  
Russia, Appeal to, 4  
Social Security and Employment, 7-8  
Supreme Court, Relations with, 8-9  
Trade Agreements, 6-7  
**Roosevelt, Mrs. F. D.**, and **D. A. R.**, 550  
**Ruddick, Chester Townsend**, 819  
**Ruggles, Catherine G.**, 240  
**Rumania**, Anglo-French Guarantee, 75, 400  
Economic Agreement with Reich, 74, 400  
*See also* Chronology of International Affairs, 110-119  
**Russia**, and Catholic Church, 647  
Trade Agreements, 405-406  
Non-Aggression Pact with Germany, 3  
Roosevelt Appeals to, 3-4  
War with Finland, 83  
*See also* Chronology of Business and Finance, 425-436, Chronology of International Affairs, 110-119  
**SAMOA**, American, 221-223  
Agriculture, 222  
Banking, 222  
Education, 223  
Government, 222  
Health and Sanitation, 223  
Historical, 222  
Population, 222  
Trade and Commerce, 222  
**Sayre, Wallace S.**, 183  
**Schley, Julian L.**, 334  
**Schneiderman, Harry**, 652  
**Schnitman, L. Seth**, 492  
**Schuyler, William M.**, 84, 121, 132  
**Sculpture**, 910-914  
American Indian Sculpture, Carvings and Masks, 911  
Italian Loans at Golden Gate, 910-911  
"Mobile" in Sculpture, 914  
Pacific Coast Primitive Art, 912  
Placements, 913  
Prizes and Awards, 913  
Scholarships and Fellowships, 913-914  
Treasure Island, Sculptors at, 912  
World's Fair, Exhibits at, 912-913  
World's Fairs, Influence of, 910  
**Secondary Education**, 948-955  
**Securities Exchange Commission**, 21, 297  
**Security and Money Markets**, 369-373  
Bond Market, 372  
General Conditions, 369  
Interest Rates, 373  
Money Markets, 372-373  
Security Market Prices, 371  
Stock Prices, 369-371  
Stock Transactions, Volume of, 371-372  
**Semitic Languages and Literatures**, 889-891  
Arabia and Islam, 890-891  
Canaan, 890  
Egypt, 891  
Mesopotamia, 889  
**Senate, U. S.**, Members of, 128-129  
**Sheldon, Preston King**, 626  
**Shipbuilding**, *see* Marine Engineering  
**Shipping**, *see* Marine Engineering, Merchant Marine  
**Silver**, Balance, 397  
Production, 472  
*See also* Chronology of Business and Finance, 425-436  
**Slum Clearance**, 582  
**Social Problems and Conditions**, 564-588  
**Social Security**, 566-567  
Administration, 140  
—Changes, 28  
**Amendments to Social Security Act**, 28, 567-568  
Benefits, Changes in, 29  
Chronology, 158  
Coverage, 29  
Employment, 7-8  
Fiscal Changes, 28  
Personnel Changes, 28  
Rejected Schemes, 30  
*See also* Chronology of Public Affairs, 158  
**Social Work**, Public and Private, 564-574  
Coordination of Public and Private Agencies, 564  
Federal Changes in 1939, 567  
Government Services, Expansion of, 566  
Inadequacy of General Relief, 572-573  
Medical Needs, 573  
Preventive Services, Planning of, 565-566  
Private Agency Programs, 565  
Public Responsibility, 564  
Social Security, 566-567  
Social Security Act, Amendments, 567-568  
State Administration Reorganization, 570-571  
Statistics, 571-572  
Surplus Commodity Stamp Plan, 568-569  
Welfare Progress in the States, 569-570  
**Sound Equipment**, Technical Progress in, 703  
Broadcast Studio Equipment, 703  
Commercial Sound, 703  
Motion Picture Recording, 703  
**Soviet-Finnish War**, 83-84  
**Spaeth, John W., Jr.**, 879  
**Spain**, Arms Embargo, Lifting of, 74  
and Catholic Church, 645  
Negri Government, Collapse of, 74  
Recognition of Franco Government, 74  
*See also* Chronology of International Affairs  
**Squalus**, Sinking of, 348-349  
**Stabilization Fund**, 24  
**State Administration and Legislation**, 161-166  
Administrative Reorganization, 164  
Civil Service, 164-165  
Highway and Motor Vehicles, 166  
Housing, 165  
Labor, 163  
Planning and Zoning, 165-166  
Public Welfare and Social Insurance, 162-163  
Taxation, 161  
**State Constitutions**, Referenda and Initiatives, 170-173  
Bond Issues and Tax Proposals, 172  
Courts and Court Procedure, 172  
Elections, 172

# INDEX

- Government Structure and Powers, 171-172
- Initiatives, 170-173
- Miscellaneous Proposals, 173
- Old Age Assistance Measures, 170-171
- Racing and Betting, 171
- State Finances**, 240-251
  - Expenditures, 240-241
  - Indebtedness, 251
  - Revenue, Sources of, 241-250
  - Banks, Taxation of, 249-250
  - Chain Store Taxes, 248
  - Corporation and Business Taxes, 245
  - Gasoline Taxes, 245, 247
  - Gift Taxes, 245
  - Inheritance and Estate Taxes, 245, 246
  - Liquor Taxes, 249
  - Miscellaneous Taxes, 250
  - Personal Income Taxes, 243-245
  - Property Taxes, 242-243
  - Sales Taxes, 246-248
  - Tobacco Taxes, 248-249
  - Use Taxes, 248
  - Sources of Information on, 251
- State Geological Surveys**, 278-285
  - Basic Geology, 278-280
  - Coal, Coke and Peat, 281
  - Economic, 282-283
  - Ground-Water Resources, 284
  - Metallic Minerals, 281-282
  - Nonmetallic Minerals, 282
  - Oil and Gas, 280-281
  - Soil Surveys, 285
  - Stream Gaging, 284-285
  - Topographical and Aerial Mapping, 283-284
- State Government**, 161-182
- States**, National and Interstate Relations of, 166-170
  - Federal-State Relations, Development of, 166
  - Great Lakes Fisheries, 168
  - Interstate Cooperation, 167
  - Interstate Oil Compact Commission, 169
  - Interstate Trade Barriers, 167-168
  - Milk Sanitation, 169
  - Motor Vehicle Regulations, 169
  - Pollution and Flood Control, 169
  - Progress, 169
- Steel**, see Iron
- Stephenson**, Gilbert T., 378
- Stevens**, Raymond B., 502
- Stock Market**, see Security and Money Markets
- Stocks**, Carl W., 525
- Stone**, Robert G., 735
- Straus**, Nathan, 582
- Strayer**, George D., Jr., 961
- Street and Highway Traffic**, 304-310
  - Accident Situation, 304-305
    - Awards, 304
    - Bicycle Regulations, 304
    - Drunkness, 305
    - Motion Pictures, 304
    - Pedestrian Problem, 305
  - Vehicle Inspection, 305
  - Improvements to Aid Traffic, 307-309
  - Parking Problem, 305-307
  - Signals, Design, 308
    - Increasing use of, 307
  - Trailer Problem, 309-310
  - World's Fairs in Traffic Problems, 309
- Strikes**, 594-595
  - See Labor
- Strong**, Lee A., 458
- Strong**, Wendell M., 410
- Structural Engineering**, 676-684
  - Bridges, 681-682
  - Buildings, 682-683
  - Chicago Subways, 683
  - Colorado River Aqueduct, 683
  - Dams, 676-680
  - Housing Projects, 683
  - Panama Canal, 683
  - South Pennsylvania Toll Road, 683
- Stuart**, Graham, 85
- Sullivan**, Francis P., 914
- Supreme Court**, The, and Constitutional Law, 38-52
  - Amending Process, 48-49
  - Composition, 38-39
  - Constitution, and the, 40
  - Intergovernmental Tax Immunities, 40-42
  - Intoxicating Liquors, 49-50
  - National Quotas and Prices, 45-47
  - Personal Freedom, 50-51
  - Position in Governmental System Clarified, 39
  - State Tax Jurisdiction, 42-45
  - Tennessee Valley Authority, 47
- Surgery**, 795-799
  - Anesthesia, 796
  - Drug Standards, 799
  - General Progress, 795-796
  - Minimizing Risks of Operation, 797-798
  - Surgery of the Chest, 797
  - Surgical Infections, 798-799
- Suter**, C. M., 755
- Syria**, 96
- Taft**, Robert A., 15-16
- Tariff Commission**, U. S., 502-509
  - Commercial Relations, Adjustment of, 503-504
  - Cotton Investigation, 507
  - Functions, 505-506
  - Industrial Surveys, 507
  - Miscellaneous Work of Commission, 509
  - Personnel, 502
  - Report on War and U. S. Imports, 503
  - Trade Digests and Commodity Surveys, 507-508
  - War, Effects of on Commercial Policy, 502-503
- Tariff Laws**, Administration of, 510-516
  - Bureau of Customs, 510
  - Changes in Ports and Stations, 516
- Commodities Imported under Quota Provisions, 515
- Commodity Revenue Trend, 511
- Customs Collections, 510-513
  - Excess Duties, 513
  - Import Values and Duty Collections, 511-512
  - Receipts, 510-511
  - Revenue Trend by Countries, 511-513
- Import Quotas, 516
- Law Enforcement, 514-516
  - Narcotics, 514
  - Seizures and Collections, 514
  - Smuggling Cases, 514-516
  - Merchandise Entries, 513
  - Transportation Traffic, 513-514
- Taxes**, Automobile, 270-272
  - Collection Methods, 272
  - Gasoline Tax, 272
  - Motor Tax Bases, 271-272
  - Registration and Revenue, 270
  - Revenue from Motor, Fuel and Other Taxes, 271
  - Sales Tax on Private Motors, 272
  - Chronology, 159
  - Corporation and Bank Taxes, 266-267
    - Bank Taxes, 267-268
    - Federal Corporation Taxes, 266
    - Insurance Companies, 267
    - State Corporation Taxes, 266-267
    - State Utilities, 267
  - Estate and Inheritance, 268-270
    - Domicile, 268-269
    - Federal Legislation, 269
    - Reciprocity, 268
    - State Legislation, 269-270
  - Gasoline, 272
  - Income, Federal, 258-259
    - Collections, 259
    - Corporate, 258
    - Personal, 258
    - Revenue from, 258
  - Income, State, 258-262
    - Corporation Income Tax Provisions, 260
    - Corporation Rates, 261
    - Maryland, 258
    - Other States and D. of C., 260-261
    - Personal Income Tax Provisions, 259
  - Productivity, 261-262
  - Revenue from, 262
  - Status of, 261
  - Land and Property Taxes, 263-266
    - Administrative Bodies, 263
    - Assessment, 264
    - Delinquencies, Waivers and Abatements, 265
    - Exemptions, 265-266
    - General Revenue Laws, 263
    - Levy, 263-264
    - Tax Rate, Limitation of, 264-265
  - Municipal, 254-255
  - Poll and Business, 254

# INDEX

—Property, 254  
 State, 242-250  
 —Banks, Taxation of, 249-250  
 —Chain Store, 248  
 —Corporation and Business, 245  
 —Gasoline, 245, 247  
 —Gift, 245  
 —Inheritance and Estate, 245, 246  
 —Jurisdiction Fixed by Supreme Court, 42-45  
 —Liquor, 249  
 —Miscellaneous, 250  
 —Personal Income, 243-245  
 —Property Taxes, 242-243  
 —Sales, 246-248  
 Tobacco, 248-249  
 Use, 248  
**Taylor, Amos E.**, 394  
**Taylor, Hugh S.**, 747  
**Taylor, Myron C.**, 4, 628  
**Teacher Education**, 966-967  
**Television**, *see* Radio  
**Tennessee Valley Authority**, 294-295  
   Congressional Legislation, 30  
   Supreme Court Decisions, 47, 134  
**Terrestrial Magnetism and Electricity**, 729-735  
   —Cosmic Radiation, 732  
   —Geomagnetism, 730-731  
   —International Union of Geodesy and Geophysics, 733-734  
   Ionosphere, 732-733  
   Magnetic Instruments, 733  
   North America, 729-730  
   —Byrd Antarctic Expedition, 729  
   —Observatories, 729  
   —Surveys, 729-730  
   Publications, 734-735  
   Sixth Pacific Science Congress, 734  
   South America, 730  
   —Observatories, 730  
   —Surveys, 730  
   Terrestrial Electricity, 731, 732  
   World Survey, 730  
**Territories and Spheres of American Influence**, 202-229  
**Theatre**, 924-932  
   Business Phase, 924-925  
   Federal Theatre, 925-926  
   Imported Plays, 930-931  
   Longest Run, 925  
   New American Plays, 926  
   New York World's Fair, 925  
   Other Revivals, 930  
   Prizes, 926  
   Producing Phase, 924  
   Shakespearean Revivals, 930  
   Spectacle and Musical, 931  
   Summer Theatres, 932  
**Theological Education**, 967  
**Thomas, Robert S.**, 311  
**Thull, Beulah Bailey**, 270  
**Tillema, John A.**, 31  
**Tin**, 481  
**T. N. E. C. Investigation**, 415  
**Trade Agreements**  
   Calendar, 504-505  
   with Canada, 516

Program, 506  
 Roosevelt, Franklin D., 6-7  
**Traffic**, *see* Street and Highway  
**Transit**, Community, 528-531  
   Motor Bus Operation, 531  
   Operation, Statistics on, 529  
   Outlook, 531  
   Progress in Rapid Transit, 530  
   Rail Lines, Rehabilitation of, 530  
   Riding and Revenue, 529-530  
   Trolley Bus Expansion, 530-531  
**Travel**, 852-855  
   Africa, 854  
   Asia, 853-854  
   Australia, Borneo, Hawaii, 854  
   Europe, 853  
   Federal Writers' Project Guides, 852  
   General and Historical, 855  
   Mexico and the Caribbean, 852-853  
   Polar Regions, 854-855  
   Rivers of America Series, 852  
   South America, 853  
   United States, Alaska and Canada, 852  
   *See also* Exploration  
**Troy, John W.**, 202  
**Trubek, Max**, 789  
**Truesdell, Leon E.**, 558  
**Trust Business**, 378-381  
   Associations, 378-379  
   Conferences, 380  
   Definition of "Trust," 380  
   Education, 379  
   Institutions, 378-380  
   Investment, 380  
   Legislation, 379  
   Literature, 380  
   Men and Women, 378  
   Statistics, 379  
**Turkey**, 98-99  
   Treaty with Great Britain and France, 75, 98, 406

## UNEMPLOYMENT

*See* Employment Conditions  
**United States and Europe**, The, 73-79  
   American Measures "Short of War," 75-76  
   —Bolstering American Diplomacy, 75-76  
   —Brazilian Agreements, 76  
   —Defense Expansion, 76  
   —Sale of Planes to French, 75  
   American Policy, Development of, 73-74  
   Neutrality Act and Europe, 78-79  
   Polish Climax, 75  
   Reaction to European Political Crises, 76-78  
   —Czech Seizure, Condemnation of, 76-77  
   —Italy and Albania, 77  
   —President's Peace Moves, 77-78  
   —Trade Restrictions, 77  
   Trend of Events in Europe, 74-75

War, Eve of, 79  
 —Prelude to, 73  
**U. S. S. R.**, *see* Russia  
**Utilities**, *see* Public Utilities

**VANDEBURG, Arthur H.**, 15  
**Veterans Affairs**, Administration of, 327-334, 30-31  
   Civilian Conservation Corps, 333-334  
   Compensation, Adjusted, 327  
   Finance, 334  
   Medical Treatment, 332-333  
   Organization, 327  
   Pensions and Compensations, 328-332  
   —Civil War, 329  
   —Grand Total, 331  
   —Guardianship, 328  
   —Indian Wars, 329  
   —Insurance, Military and Naval, 328  
   —Mexican War, 329  
   —Regular Establishment, 330  
   —Revolutionary War, 328  
   —Spanish-American War, 329-330  
   —War of 1812  
   —World War, 330-331  
   —Yellow Fever Experiments, Honor Roll, 328  
   U. S. Government Life Insurance, 327  
**Virgin Islands**, 218-220  
   Civilian Conservation Corps, 220  
   Cooperatives, 219  
   Economic Situation, 218  
   Finances, 219-220  
   Government, 218  
   Homesteading, 218  
   Nursery Schools, 218  
   Roads and Streets, 218  
   Shipping, 219  
   Tourist Trade, 218  
**Vital Statistics**, 803-809  
   Criminal, 807-808  
   Hospital and Institutional Statistics, 804  
   International List of Causes of Death, 803-804  
   Marriage and Divorce Statistics, 805-806  
   Mental Institution Statistics, 804-805  
   Mortality and Natality Statistics, 803  
   Organization and Field Work, 803  
   Physicians' Handbook on Birth and Death Registration, 804  
   Publications, 804  
   Scope and Importance, 803  
   Special Projects, 804  
   Special Tabulations, 805-807  
   —Death Rate, 805  
   —Growth of Registration Areas, 806  
   —Natality and Mortality by States, 1938, 807  
   Standard Certificates of Birth, Death and Stillbirth, Revised, 803  
**Volcanoes**, 722

## INDEX

### WAR, Effects on

- Agriculture in U. S., 439
- Commercial Policy of U. S., 502
- Insurance, 415, 420
- Merchant Shipping, 532, 536
- Trade, 402-408, 502-503
- Pius XII, Peace Efforts, 642
- Protestant Stand in U. S., 618-619, 623
- Religion and European War, 626-627
- Roosevelt, F. D., Peace Efforts, 3, 77, 78
- War and American Neutrality,** 79-84
  - Bringing Home American Nationals, 80
  - Character of War, 79
  - Combat Area Closed to American Shipping, 81
  - Contraband Search, 83
  - Defense Measures, 80-81
  - Neutral Rights, Defense of, 82-83
  - Neutrality Act, 78, 81, 532
  - Neutrality, Proclamation of, 79-80
  - Panama, Declaration of, 81-82
  - Peace, Preparation for, 84
  - Soviet-Finnish War, 83-84
- Water Supply,** 299-304
  - Construction, 300-301

- Boston, 300
- New York, 300-301
- San Francisco, 301
- Southern California, 301
- Corrosion, 303
- Distribution Hazards, 303-304
- Drought, 304
- Gastro-enteritis, 304
- Precautions, 303
- Typhoid Fever, 304
- Improvements and Refinements, 302
- New Projects, 301-302
- Grand Rapids, 302
- New Jersey, 301
- Pittsburgh, 301
- Toledo, 302
- Purification, 302
- Softening, 302-303
- Storage Tanks, 303
- Water Sources and Treating Plants, 300
- Waterways and Harbors,** 334-342
  - Coastwise Commerce at Ports, 341
  - Columbia River System, 336
  - Flood Control, 336, 337
  - on Mississippi River, 336
  - National, 336-337
  - Foreign and Domestic Commerce of Ports, 342
  - Inland Waterways, 334-335
  - Chronology, 149
  - Commerce on, 339
  - Statistics, 339-340
  - Mississippi River System, 335
  - Port Facilities, 337-339
  - Great Lakes Ports, 339
  - Gulf Coast Ports, 338-339
  - North Atlantic Ports, 337
  - Pacific Coast Ports, 339
  - South Atlantic Ports, 338
  - San Joaquin-Sacramento System, 335
  - Water-Borne Commerce and Terminal Facilities, 337
- Weeks, O. Douglas,** 174
- Welles, Sumner,** 76, 77
- West, W. Reed,** 226
- Weston, Robert Spurr,** 299
- Weygandt, Cornelius N.,** 690
- Wheeler, Burton K.,** 13
- White, Wilbur W.,** 96
- Whitney, Paul C.,** 743
- Woodruff, Clinton Rogers,** 192
- Works Progress Administration,** Adult Education, 971
  - Congressional Legislation, 31
  - Employment, 596-597
  - Wages and Hours on Relief Projects, 603
- World Court,** 108
- World's Fair, New York,** 55-62
- YOUNG, Malcolm Oakman,** 847
- ZINC,** 484



N. 1. - 3. D.  
 800-28













Date Dec



3 8198 310 791 932  
THE UNIVERSITY OF ILLINOIS AT CHICAGO

**THIS BOOK IS FOR USE  
ONLY IN THE LIBRARY  
IT DOES NOT CIRCULATE**

